Sumatra Journal of Disaster, Geography and Geography Education
ISSN: 2580-4030 (Print) 2580-1775 (Online)
Vol 2, No. 1, (pp. 65-70), June, 2018
http://sjdgge.ppj.unp.ac.id

Analysis of Potato Commodity Competitiveness Development Strategy at Sembalun Village in East Lombok Regency of Nusa Tenggara Barat

*Intan Dwi Rahayu [1)] and L. Sukardi[2)]

1) Master Program Student of Geography Education Faculty of Social Science, Universitas Negeri Padang, INDONESIA
2) Faculty of Agriculture, Mataram University, Indonesia

Email: intandwirahayu5050@gmail.com

*Corresponding Author, Received: February 17, 2018, Revised: April 25, 2018, Accepted: May 01, 2018

Abstract

The purpose of this research was to analyze the effort to improved competitiveness of potato commodities. This research employed a descriptive method and used data collection techniques of survey and interview. The data analyses being used were descriptive analysis and SWOT, and analytic hierarchy process (AHP). The result showed that there were five chain structures of potato commodity supply. Internal and external factor each has eight criteria which were made to alternative strategies. AHP suggests that strategies of internal factor are the development of facilities and infrastructure for potato commodity, increasing potato seeds availability, broadening market information, optimizing the utilization of potential cultivation area in Sembalun, improving and exploiting farmers' potato cultivation experience, improving potato quality, utilizing available workers in potato post-harvest handling process, and reducing overproduction. Furthermore, the strategies of external factor are sharpening potato farmer's skill, following the competition level, improving production opportunities in dry season, reducing risk level of extreme climate, practicing and making use of available government policy, improving the production to meet consumer demand, reducing pests and diseases and minimizing the fluctuations in potato price.

Keywords: Competitiveness, Sembalun Village, Potato

Introduction

An increasingly free global market climate requires Indonesia to be ready to compete globally SO bargaining position of commodities must be improved (Adiyoga *et al*., 2012). To be able to compete globally, competitive and comparative quality of a commodity should be identified and so should government intervention be which can be done in order to improve the quality. Government policy is the policy about product's input and output (Rum 2010). Emelda *et al*., (2014) in their research about competitiveness and government policy on Cocoa development is stated that the government policy has been going well and supporting competitive and comparative quality which benefits the farmers. Potato is one of commercial excellent food commodities. Potato is listed in export and import food commodities. However, since the full implementation of ASEAN-China Free Trade Agreement in 2010, Indonesia has been flooded by Chinese product including horticultural products. As for potato production, Indonesia is still facing the problem in farming, processing, and marketing that causes inefficiency of export commodities such as potato and chilli (Basuki *et al*., 2013). Chilli and potato are national best highland vegetables that also have an increase in import.

Sumatra Journal of Disaster, Geography and Geography Education
ISSN: 2580-4030 (Print) 2580-1775 (Online)
Vol 2, No. 1, (pp. 65-70), June, 2018
http://sjdgge.ppj.unp.ac.id

Food Agriculture Organization reported that world's potato production were 324 million tons in 2010 (Deb *et al*., 2013). Gray (2005) suggested that national potato production was increasing to 16.3% during the period of 2005–2009. However, the increase was more due to the expansion of planting area not because of its increased productivity. On the other hand, according to the research result by Emelda *et al*., (2014), consumers said that the consumption of potato increased to 46.6% during the last five years. Meanwhile, fluctuated potato production has caused the fluctuations in potato supply that government should import it in order to fulfill national potato demand. Potato has a high growth trend but its market penetration is low that it needs a high capital in order to improve its market share (Saptana and Friyanto, 2001). The marketing of local potato commodity is pressed by the import commodity because the most frequent mistakes of improper cropping pattern and excessive pesticide use can not be fully solved yet. For example the case in highlands in Dieng, current average production is only 5–8 tons/ha while 10 years ago it was 10–13 tons/ha (Said 2011). However, according to Shaples (1993) potato commodity in Wonosobo, Central Java, still has competitive and a quite high comparative quality.

Nusa Tenggara Barat (NTB) is an area which is highly potential for being one of national potato production development centers. The largest potato planting in NTB is done by farmers in the slopes of Mount Rinjani which is located at Sembalun District of East Lombok Regency. Sembalun is the only area in Indonesia that is free from yellow potato cyst nematode or what is called as NSK in Indonesian (Adiyoga *et al*., 1999). Potential area for horticultural development, especially potato and other vegetables, in Sembalun District is 6,730 ha consisting of 5,575 ha dry lands and 1,155 ha rice fields (Central Bureau of Statistic of East Lombok). The data from Central Bureau of Statistic (BPS) in 2013 showed that the trend of potato export volume had been going down since 2009 while the import volume showed a quite high increasing trend especially during 2010 to 2011 just after ACFTA was official enacted. This indicates that local potato commodity has not been able to compete with imported potato both in terms of quality and price.

Increasing competitiveness of potato commodity is the key factor in the development of horticultural business in Indonesia and reducing the loss impacted by ACFTA and other free trades. Basuki *et al*., (2013) opined that the effort to improve farmer's competitiveness needs to be done through strengthening an integrated institutional system. The system development can make the supply chain more efficient for reducing the price margin so that vegetable product price in Indonesia can be cheaper and more competitive. Moreover, the competitiveness development is done by implementing right strategies decided after analyzing internal and external factors of the production of potato commodity which is known as best highland vegetable crop in Semabalun Disctrict of East Lombok, NTB. Based on the explanation above, this research had the purposes of: 1) identiftying supply chain structures of potato commodity in Sembalun, 2) proposing strategies to improve competitiveness of potato commodity in Sembalun, and 3) deciding right strategies to improve competitiveness of potato commodity (esp. variety Atlantic and variety Granola) in Sembalun trough AHP.

Method

The research was set at Sembalun Village of East Lombok Regency in Nusa Tenggara Barat. Primary data of this research was collected through survey and interview from research samples who were selected by using purposive sampling and snowball sampling. Obtained data was then analyzed by using a descriptive analysis for identifying the supply chain structures of potato commodity. The next analyses was done by adopting SWOT technique aimed to identification potato commodity's external and internal factors such as strengths, weaknesses, opportunities, and threats. Furthermore, priority's weight of each factor was revealed and decided by using analytic hierarchy process (AHP).

Results and Discussion

Supply chain is the main need in improving competitiveness of potato commodity. Supply chain structure is dynamic and it explains about involved parties and their roles and the flows of information, product, and money contained in it (Astuti *et al*., 2010). Highland vegetable supply chain states that highland vegetables in Indonesia have different chain characteristics. The main difference is in the vegetable types and quality. The

Sumatra Journal of Disaster, Geography and Geography Education
ISSN: 2580-4030 (Print) 2580-1775 (Online)
Vol 2, No. 1, (pp. 65-70), June, 2018
http://sjdgge.ppj.unp.ac.id

difference is caused by the use of un-standardized seeds by farmers. So, in order to improve the quality of potato, farmers are hoped to use standardized seeds (Hermon, 2012a; Hermon, 2012b; Hermon, 2014a; Hermon, 2014b). The result from identification of potato commodity supply chain structure at production center in Sembalun of East Lombok Regency of NTB suggested two types of trade activity pattern which are general trade pattern and pattern of cooperation with PT. Indofood. In this research there are two structures identified, they are supply chain structure of potato seed and supply chain structure of potato commodity.

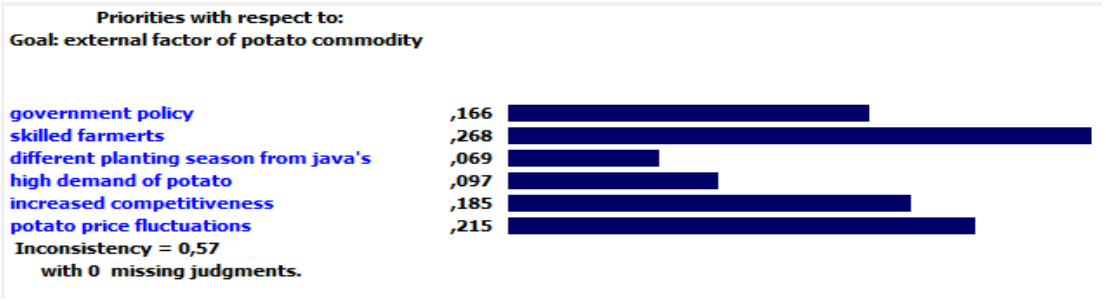
There are three types of variety Granola seeds being planted by potato farmers in Sembalun. They are Granola type G3 whose price is IDR. 18.000/kg, Granola type G4 costed s much as IDR. 17.000/kg, and Granola type G5 costed as much as IDR. 15.000/kg. Of these three Granola types, G3 and G4 can be re-developed into seeds used for next planting season because the two types are the best of all granola seed types. Farmers directly sell potatoes in sacks to distributors without first sorting the products. The potatoes are sold with a price received by farmers of IDR. 6.000/kg. After that, the potatoes are distributed to central markets ouside East Lombok Regency such as in Mataram, Bertais Central Market and Kebon Reok Ampenan Central Market.

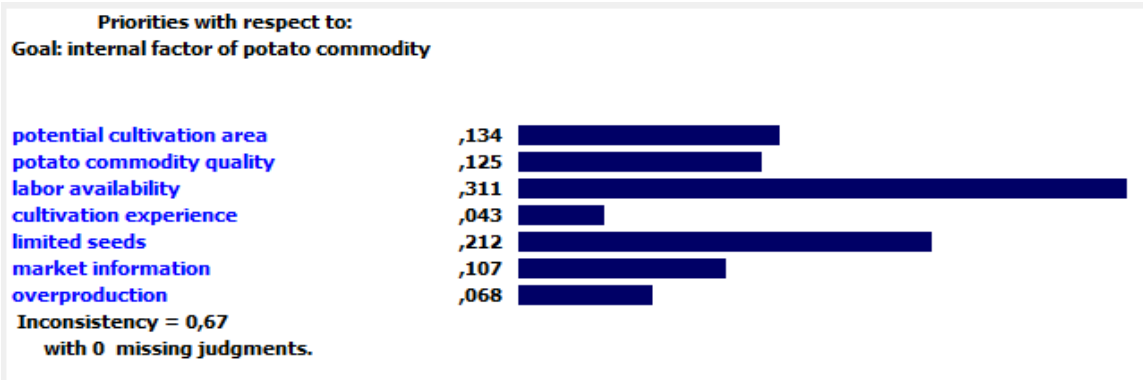
The potatoes from Sembalun are also distributed to the regions outside production center such as Sumbawa and Bima. Potato distributors who supply for outside Lombok Island are from Anjani. So, the potatoes are supplied in Anjani by local distributors until the load meets the demands and then they are directly brought by the other distributors to the regions outside Lombok Island. Local distributors are taking profit of IDR.2000/kg of the price given to potato distributor for outside the Lombok Island. Potato farmers no longer sell their potatoes to distributors but they directly sell them to merchants around Sembalun area. The potatoes sold by farmers are usually the ones used for snack products such as potato chips, potato donut, and French fries. The price received by farmers from merchants is IDR. 8.000/kg. The potato products are then directly packed in a plastic bag of 1 kg by merchants and then sold for IDR. 12.000 – IDR. 17.000/kg so tourists that come to Sembalun Village can directly buy and enjoy farmers' potatoes. Identification result of internal and external factors using SWOT analysis is used for the criteria in decision making, as presented in the following table:

	STRENGHTS (S)	**WEAKNESSES (W)**
EXTERNAL FACTOR	- Potential cultivation area - Potato commodity quality - Labor availability - Cultivation experience	- Limited seeds - Lack of market information - Overproduction - Limited facility and infrastructures
OPPORTUNITIES (O)	**STRATEGY (SO)**	**STRATEGY (WO)**
- Government policy - Skilled farmer - Different planting season from java's	- Facilities and infrastructure development in Sembalun Village - The need of government guidance for skilled farmers about potato management practices in Sembalun Village	- Giving both central and local (government) donation to farmers - Providing updated information of potato commodity
TREATHS (T)	**STRATEGY (ST)**	**STRATEGY (WT)**
- High demand for potatoes - Pests and diseases - Increased competition - Potato price fluctuations - Extreme climate	- Providing farmer's training on how to manage pests-and-diseases-resistant potato commodities	- Development of facilities and infrastructure for potato commodity processing - Every farmers has a large supply of seeds

The criteria from SWOT analysis (Hermon, 2015; Hermon, 2016a; Hermon, 2016b; Hermon, 2017; Hermon *et al*., 2017) were formulated into AHP which would give information about the right strategies in improving competitiveness (Hermon *et al*., 2018a; Hermon *et al*., 2018b) of potato commodity in Sembalun Village. The following results of AHP shows internal and external factors which can be used for strategies:

Sumatra Journal of Disaster, Geography and Geography Education
ISSN: 2580-4030 (Print) 2580-1775 (Online)
Vol 2, No. 1, (pp. 65-70), June, 2018
http://sjdgge.ppj.unp.ac.id





The chart above shows that the right strategies for improving competitiveness of potato commodity based on internal and external factors can be in forms of improving strengths and minimizing weaknesses. The strategies are improving facilities and infrastructure for potato cultivation and seed nursery, increasing the availability of seeds by developing Sembalun as national potato nursery center, exploiting potential potato cultivation area in Sembalun, broadening the access of market information, improving farmer's cultivation experience and developing the cultivation, improving skills of existing workers, improving standardized and certified quality of potato seed, and reducing overproduction through the development of potato processing, These eight priorities will support and realize the competitiveness of potato commodity for supporting government program in making Sembalun as national potato nursery center. In this case, the facilities and infrastructure needed for improving potato commodity competitiveness in Sembalun are of technologies of seed production.

The right strategies to improve the competitiveness according to external factors are by increasing opportunities and reducing or eliminating threats. The strategies are improving farmer's skills through training about cultivation, nursery and product processing, improving potato cultivation at dry season which gives an opportunity for Sembalun to compete with markets in Java, improving countermeasures and preparation for dealing with extreme climate, improving skills to deal with pests and diseases, improving aspiration and realization of government policy in the planning., making a program of Sembalun as national potato nursery center, improving the production in order to meet potato demands from Lombok or outside Lombok or other partners from processing industry, reducing the fluctuations in potato price such as minimizing other threats that can trigger price fluctuations and reducing competition through improving all opportunity and strength aspects of internal factors. In this case, government policy is needed to support and facilitate Sembalun's potato farmers in realizing the program. Moreover, in order to support the implementation of potato commodity competitiveness development strategy, local goverment full support is needed.

Conclusion

From analysis and discussion above, research conclusion that can be drawn are: There are five chain structures of potato commodity supply. Internal and external factor each has eight criteria used for deciding alternative strategies and the result from AHP suggests that the top strategy priorities of internal factor is

Sumatra Journal of Disaster, Geography and Geography Education
ISSN: 2580-4030 (Print) 2580-1775 (Online)
Vol 2, No. 1, (pp. 65-70), June, 2018
http://sjdgge.ppj.unp.ac.id

improving facilities and infrastructure of potato production, increasing potato seed availability, broadening market information, optimizing the utilization of Sembalun potential cultivation area, improving and exploiting cultivation experience of potato farmers, improving potato quality, utilizing the labor availability in the post-harvest handling process of potato garden, and reducing overproduction. Meanwhile, the top priorities of external factor are sharpening potato farmer's skill, following the competition level, improving opportunities of the production in dry season, reducing the risks level of extreme climate based on experience, practicing and making use of government policy in the procurement of facilities and infrastructure intended to develop Sembalun as National Nursery Center, increasing production to meet consumer demand through expanding planting area, reducing pests and diseases as early as possible and minimizing the occurrence of potato price fluctuations.

References

Adiyoga, W., S. Basuki., R, Hilman, and B.K. Udiarto. (1999). Studi Lini Dasar Pengembangan Teknologi Hama Terpadu pada Tanaman Cabai di Jawa Barat. J. Hort. Vol. 9. No. 1.

Badan Pusat Statistik. (2013). Nusa Tenggara Barat dalam Angka. Badan Pusat Statistik. Kabupaten Lombok Timur.

Basuki, R.S., T.K. Moekasan, and L. Prabaningrum (2013). Analisis Kelayakan Teknis dan Finansial Teknologi Pengendalian Hama Terpadu Kentang Dataran Medium. J. Hort. Vol. 23. No. 1.

Deb, S., S. Kumar and A.P. Chowdhary (2013). Production Technology of Hybrid True Potato Seed. CIBTech Journal of Biotechnology. Vol. 3. No. 3.

Emelda, A., A. Asrul, L, and P. Mapplagau. 2014. An Analysis of Competitiveness and Government Policies Impact on Development of Cocoa Farming in Indonesia. Asian Journal of Agriculture and Rural Development. Vol. 4. No. 1.

Gray, M. (2005). Geodiversity and Geoconservation: What, Why, and How?. Geodiversity & Geoconservation, The George Wright Forum. V. 22 No.3

Hermon, D. (2012a). Dinamika Cadangan Karbon berdasarkan Perubahan Tutupan Lahan menjadi Lahan Permukiman di Kota Padang. Forum Geografi. Vol. 26. No. 1: 45-52

Hermon, D. (2012b). Mitigasi Bencana Hidrometeorologi: Banjir, Longsor, Degradasi Lahan, Ekologi, Kekeringan, dan Puting Beliung. UNP Press.

Hermon, D. (2014a). Impact of Land Cover Change on Climate Change Trend in Padang, Indonesia. Indonesia Journal of Geography. Vol. 46. No. 2: 138-142.

Hermon, D. (2014b). Geografi Bencana Alam. Radjawali Press.

Hermon, D. (2015). Estimate of Changes in Carbon Stocks on Land Cover Change in the Leuser Ecosystem Area. Forum Geografi. Indonesia Journal of Spatial and Regional Analysis. Vol. 29. Issue 2: 187-196.

Hermon, D. (2016a). The Changes of Carbon Stocks and CO_2 Emission as The Result of Land Cover Change for Tin Mining and Settlement in Belitung Island Indonesia. Journal of Geography and Earth Sciences. Vol. 4: 17-30.

Hermon, D. (2016b). The Changes of Carbon Stocks and CO_2 Emission as the Result of Land Cover Change for Tin Mining and Settlement in Belitung Island, Indonesia. Journal of Geography and Earth Science. Vol. 4. No. 1: 17-30.

Hermon, D. (2017). Climate Change Mitigation. Rajawali Pers (Radjagrafindo). Jakarta.

Hermon, D., P. Iskarni., O. Oktorie., and R. Wilis. (2017). The Model of Land Cover Change into Settlement Area and Tin Mining and its Affecting Factors in Belitung Island, Indonesia. Journal of Environment and Earth Science. Vo;. 7. No. 6: 32-39.Hermon, D., A. Putra., and O. Oktorie. (2018). Suitability Evaluation of Space Utilization Based on Enviromental Sustainability at The Coastal Area of Bungus Bay in Padang City, Indonesia. Vol. 14, Issu 41: 193-202.

Hermon, D., Ganefri., A. Putra., and O. Oktorie. (2018). The Model of Mangrove Land Cover Change for the Estimation of Blue Carbon Stock Change in Belitung Island-Indonesia. International Journal of Applied Environmental Sciences. Vol. 13. Number 2: 191-202.

Sumatra Journal of Disaster, Geography and Geography Education
ISSN: 2580-4030 (Print) 2580-1775 (Online)
Vol 2, No. 1, (pp. 65-70), June, 2018
http://sjdgge.ppj.unp.ac.id

Saptana, S and S. Friyanto. (2001). Analisis Keunggulan Komparatif dan Kompetitif Komoditas Kentang dan Kubis di Wonosobo, Jawa Tengah, Pusat Sosial Ekonomi dan Kebijakan Pertanian, Badan Litbang Pertanian, Kementerian Pertanian.

Sharples, C. (1993). A Methodology for the Identification of Significant Landforms and Geological Sites for Geo Conservation Purposes. Report to Forestry Commission, Tasmania.