Proceeding

International Conference
Strengthening Indonesian Agribusiness:
Rural Development and Global Market Linkages

IPB International Convention Center, Bogor - Indonesia,
25 - 26 April 2016

Editors:
Amzul Rifin
Meine Pieter van Dijk
Diederik P. de Boer
Huub Mudde
Johan van Rooyen
Siti Jahroh

Organized by
Department of Agribusiness, Faculty of Economics and Management,
Bogor Agricultural University - Indonesia
in collaboration with
NICHE NUFFIC Programme - The Netherlands

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FOREWORD

With deep satisfaction I was writing this foreword to the Proceedings of International Conference with the theme of Strengthening Indonesian Agribusiness: Rural Development and Global Market Linkages held in IPB International Convention Center, Bogor Agricultural University, Indonesia, on 25 -26 April 2016. This conference marked the end of the NICHE Project which started in 2011.

Diverse papers and discussion represent the thinking and experiences of mixed and various scholars of their particular interest and fields. Of valuable was the presence of prominent scholars who brought their newest findings out of their research works. Their contributions helped to make the conference as outstanding as it has been.

Special thanks are due to the invited speakers Prof. Meine Pieter van Dijk (Maastricht School of Management (MSM) Netherlands), Dr. Daniel Sherrard (Earth University, Costarica), Dr. Nunung Kusnadi (Agribusiness Department, Bogor Agricultural University), Oliver Olson, MBA (Director Global Education Programs at Maastricht School of Management), Huub Mudde, M.Sc (Agricultural Counselor, Embassy of the Kingdom of the Netherlands), Prof. Johan van Rooyen (Agricultural economics at Stellenbosch Univeristy, South Africa), Ir. Wildan Mustofa, MM (Hikmah Farm, Pangalengan West Java), Joshua Bray, M.Sc (Sydney University, Australia) and Dr. Nerlita M. Manalili (Managing director NEXUS Agribusiness Solutions, Philippines and SEARCA Consultant Agribusiness). We would like also to thank the editor of the proceeding, Dr. Amzul Rifin, Prof. Meine Pieter van Dijk, Diederik P. de Boer, PhD, Huub Mudde, M.Sc, Prof. Johan van Rooyen, Siti Jahroh. Phd, Triana Gita Dewi, M.Sc, M. Rizqy Mubarok, M.Si, and Hamid Jamaludin, SE for the layout of the proceeding.

It is my hope that this proceeding will contribute to the development of agriculture and rural development in the world and in Indonesia especially.

Dr. Dwi Rachmina
Head of
Department of Agribusiness
Faculty of Economics and Management
Bogor Agricultural University
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RISK REDUCTION STRATEGY BY USING RAIN SHELTER ON CHILI PEPPER AGRIBUSINESS

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ABSTRACT

The plenty of red Chili demand pull up farmers to continue production of red chili and adjust it with industry demand specification. The supply of red chili will be guaranteed if the production is going well. In fact, the production process frequently faces the climate disturbance therefore it was indicated that there is a risk in production, it deteriorated quality and quantity of red chili. Garut regency is one of the center of production of red chili in West Java, but it is still threatened by risk production. According to that information, it is needed to study the elements and link period pattern of risk production then it can be suggested the policy design in mitigating the risk production. This study used dynamic system approach. The results showed that risk production occurred when there was a death structure in growing and production period which is caused by climate anomaly. The simulation result showed that us period of technology rain shelter as one suggested design to mitigate the risk, not only can reduce the mortality but also to promote the grade product quality.

Keywords: red chili, Production risk, mitigation

INTRODUCTION

Red chili is one of horticultural product which has high economic value and demand. Red chili demand consists of two kinds, namely direct consumption and agroindustry. The rate consumption of red chili is predicted to increase every year in line with the increase of people quantity. However, from 2004-2010, production of red chili fluctuated, in general decrease with the aver period of decrease 1 percent per year (BPS, 2010). The climate change has caused a very high of rain and pest disease and predicted as the reason of production decreasing of red chili. It can be said that red chili farming faced the risk, risk production. The risk of the variety of outcomes that may occur during a specific period (Roumasset et al., 1979). There was also said that the risk is the uncertainty which may give rise to lose event (Kountur, 2004). It can be concluded that the risk is the uncertainty over its occurrence and can cause harm. By Harwood et al., 1999 one of risk faced by farmers is the risk of production which is common to commodity red chili commodity. Risk production is the risk which is originated from the failure of harvesting, low of productivity, the broken product which is caused by pest disease attack, climate change and human error (Harwood et al., 1999).

Garut regency is one area which has a high productivity of red chili and becomes a center of red chili in West Java. One of local champion which is recommended by Agricultural and Horticulture office in Garut Regency is Cooperative of Cabai Garut Inti (Cagarit). This cooperative covered eight sub-districts namely Cigedug, Pasirwangi, Cilawu, Sukaresmi, Bayongbong, Cisurupan, Cikajang and Sucinaraja. However, in fact, Cagarit cooperative still has a threat, the lack of red chili production to meet the demand of red chili of industry company Heinz ABC which has a partnership contract since 2011. The risk production became main factor limited production. As far, the technology which can handle pest disease and climate change have not been found, consequently, the continuity of supply for industry demand also have not been found. Production technology must be applied in line with production man periodment such as operation standard procedure (SOP) of farming which is suitable with the local condition and necessity of market (Perdana et al., 2013).

Based on those problems, it is needed one study on learning of the forming elements and link period pattern of production risk and to
study a complexity of the interaction of various involved components then suggested the strategy policy proposal in mitigating that risk.

**RESEARCH METHODS**

The research method used is a case study to learn deeply on production risk and its link period pattern. This study took Cooperative Cagarit as location and unit analysis in Garut Regency which has a contract of partnership with agroindustry firm. However the need of demand has not been known.

In terms of understanding complexity and dynamics of production risk, this study used dynamics system approach. Dynamics system is one of a method which has power to get deeply understanding on complex and resistance dynamics situation of policy (Sterman, 2000). Data was obtained from searching on various sources, such as research journals, reports and many others.

Data in numeric, mental model and written have been processed then being a model in this research by using soft system Vensim DSS. The modelling step consists of some steps: learning and studying system, developing level and rate of the diagram in the system, developing model in a system, testing model assumption, conducting simulation and releasing policy recommendation (Sterman, 2000).

**RESULTS AND DISCUSSION**

Cooperation contract has been dealt between cooperative as red chili farmers with Heinz ABC Company as processor industry. Based on this contract, cooperative must meet the needs and keep the commitment. To keep commitment and contract, before it happened, cooperative has discussed with the farmer in groups on continuity of supply and capacity of each group.

In production planning, cooperative predicted crop pattern based on the previous

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**Figure 1. Sub Model Diagram of Production Risk**

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Risk Reduction Strategy by Using Rain Shelter...  
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experience, but it was not always appropriate exactly. Input supply also experienced the same condition, as same as financing problem. In fact, red chili farming is facing many problems. The failure of production due to climate change also becomes one of the problems. All of these problems are the production risk. All of phenomenon’s which describe production risk and link period of variables and elements inside can be figured in a model which consists of some of sub-models of the flow chart.

**SUB MODEL OF PRODUCTION RISK**

One factor which determines the supply of red chili is farming process. In this sub model, it is seen that starting from growth period up to production period was indicated there was a risk. In growth period, it is formed the death structure due to an effect of climate anomaly to the plant. The appropriate rainfall for red chili is 600 – 1200 mm/year then if there is a lack or excess of it, it can make a death or broken. In production, 50 percent of red chili plant face a death due to fusarium disease or anthrax nose.

Red chili plant is very delicate in terms of weather effect and disease. Some of the alternative ways have already been tried but not optimally yet because of limited means. Sub model of production risk is showed in Figure 1. Physics structures and decision in this sub model are represented by following a formula (formula 1-2). Red chili production during summer season or wet season with possibility condition such us the high temperature, strong winds and pest disease attack will reduce the production result of red chili significantly. One of the important factors that affect the development of red chili farming is through production technology in facing various extreme conditions. Figure 2 describes that it can guarantee the continuity of red chili production in quantity, quality and stable price. One of the technologies is rain shelter technology. Rain shelter is one innovation of canopy technology to protect the plant from heavy rainfall. Rain shelter has a function to minimize the plant from the puddle and it has an effect on the production (Palada et al., 2012).

Rain shelter effect is wished to mitigate the production risk in wet season so the rainfall can not fall directly to the plant to prevent root rot. Figure 3 shows that the use of rain shelter also can affect the product quality of red chili. The use of rain shelter will affect the financing of red chili farming and it has an impact on strengthening the

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**Figure 2. Sub Model of Production Rain Shelter Scenario**

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*Sri Ayu Andayani, Lies Sulistyowati, and Tomy Perdana*  
*Risk Reduction Strategy by Using Rain Shelter...*
Risk Reduction Strategy by Using Rain Shelter… Sri Ayu Andayani, Lies Sulistyowati, and Tomy Perdana

The impact of use of rain shelter...
of the product. Simulation result explained that at initial condition, sortation on grade increased fastly due to planting of red chili more in initial step. Then, it slowly gets stable as well as off grade. It is indicated clearly that the impact of rain shelter technology can give the positive impact effectively in reducing the death of plan and promoting the quality on grade.

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS
1. The formation of elements and linkage pattern of production risk was seen from the period of growth up to production of red chili. It was indicated that there was a risk of death fraction, as a result of production risk will have an impact on the availability of red chili in the market.

2. In an effort of production risk management, rain shelter technology was applied. The application of this technology has a positive impact on the quantity and promoted the quality on grade in sortation.

RECOMMENDATIONS
1. In an effort to apply risk management policy, it is required to strengthen an institution inside, cooperative. It becomes pre-condition in assessment of implementation of policy across training, more intensive in controlling on management system which can promote the motivation to cooperate and participate.

2. In an effort of applying, rainshelter canopy technology for red chili farming needs huge capital, which can be developed rain shelter from local equipment, such as bamboo as a substitution for iron.

REFERENCES
Palada M.C. 2012. Rainshelter for Tomato Production in the Hot-Wet Season, AVRDC-The World Vegetable Center
Perdana. 2012. Modul Sistem Agribisnis, Program Studi Agribisnis, Fakultas Pertanian, Universitas Padjadjaran, Bandung
Roumasset, Boussard, Singh. 1979. Risk uncertainty and Agricultural Development, New York, USA