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The 2nd International Joint Conference on Science and Technology (IJCST) 2017

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Preface

Ladies and Gentlemen,

It is my great pleasure to welcome you all to The 2nd International Joint Conference on Science and technology –IJCST 20176 in Nusa Dua Bali-Indonesia 27-28 September 2017. This conference is multidisciplinary including engineering and social science and hope can dedicate a positive contribution to science and technology development. Hosted by Bali State Polytechnic (PNB) and other established university partner including UPNV Jatim, FMIPA-UNISA, FISH-UNESA, and UTM, this conference are attended by more than four hundreds participants who present their best research results.

Papers have been reviewed by peer reviewers and already presented orally in the conference and already selected to be published in **Journal of Physics: Conference Series** (<http://jpcs.iop.org>) These were then been reviewed again and final submission by IJCST 2017 Committee to the journal due date on 24 November 2017. With high confidence, depend on the paper topic and quality will can reach aim and topic of the conference **“As an international platform for scholars, researchers, practitioners, and government to discuss interdisciplinary research and practices that focuses in the theme of “Science, Technology, Innovation, and Culture for Sustainable Development: Challenge for Green Industry”**.

We would like to extend our warm and sincere thanks to authors for great contribution in this conference. Hopefully all participants and authors can extend to build a networking each other in order to improve the research quality in future.

Sincerely yours,

IJCST 2017 Committee



Remark from Conference Chair

The honourable Minister of Tourism Republic of Indonesia
Distinguish guest and participants of IJCST 2017
Welcome to Bali – a wonderful Indonesia



The past few years has witnessed the idea of “Green Economy” flowing out from its realm of environmental economics. It is now omnipresent in mainstream policy discourse, our popular culture, industries, and development of disruptive technologies. It has successfully won the headspace and commitments of the world leaders as reflected in the Paris Agreement, the United Nations Sustainable Development Goals, G20 communiqués.

The time to debate about whether we should transition to a green economy has now ended. It has been agreed upon to be the only way forward. However; shifting from the traditional 20th century model to a new green society requires massive investment and transformative disruptions. Delivering this ambitious global project requires strong public-private-partnerships and cross-sector collaborations. The 2nd International Joint Conference on Science and Technology (IJCST) 2017 aims to advance both by providing a multi-stakeholder platform for concerted action, research, and sharing of best practices under the theme “Science, Technology, Innovation, and Culture for sustainable development: Challenge for Green Industry”

I would like to welcome all of you to the IJCST 2017 and express my gratitude for the expertise you bring to our gathering. You are truly our greatest asset today and I encourage you to stay engaged, keep us proactive, and help the world shape the future of green economy.

I wish you a great conference and wonderful time in Bali.

Sincerely yours,
Conference chair
Dr. Ir. Lilik Sudiajeng, M.Erg

Welcoming Addressed by Director of Bali State Polytechnic

You're Excellency Minister of Tourism Republic of Indonesia
Distinguish guest and participants of IJCST 2017

Good morning

It is my pleasure welcoming you in Bali-the wonderful Indonesia, to attend the International Joint Conference on Science and Technology (IJCST) 2017.

This is the 2nd IJCST, which is held by Bali State Polytechnic, in collaboration with University of Pembangunan Nasional Veteran-East Java; University of Trunojoyo Madura-East Java; State University of Surabaya-East Java; and National Cheng Kung University Taiwan.

The conference is to aim an international platform for scholars, researchers, practitioners, and government to discuss interdisciplinary research and practices under the theme of "Science, Technology, Innovation, and Culture for Sustainable Development: Challenge for Green Industry". This theme is raised as a manifestation of the academic community's sensitivity towards global environmental issues that are now shifting from the issue of global warming to green economics.

It is an honor for me to convey that over 350 participants attended this conference from 14 countries. I give highly appreciation for your attendance. Your presence at this conference is very important to help the world in formulating green industry that leads to green economy.

Finally, wishing you a great conference and enjoy Bali, the wonderful Indonesia.

Bali State Polytechnic
Director,

Ir. Made Mudhina, MT.



Speech by Minister of Tourism



OPENING SPEECH

MINISTER OF TOURISM, REPUBLIC OF INDONESIA

*International Joint Conference on Science and Technology (IJCST),
Nusa Dua Bali, 27 September, 2017*



First of all I would like to extend my appreciation and gratitude to the committee of International Joint Conference on Science and Technology (IJCST) for exposing the theme of the conference on Science, Technology, Innovation, and Culture for Sustainable Development: Challenge for Green Industry. The theme is strongly intersected with global tourism development, since tourism is an integrated economic development involving high technology, innovation, culture and natural sphere.

The theme has clearly revealed that sustainable tourism, as part of sustainable development, is a joint effort among stakeholders. Multi-disciplinary research has to be constantly and mutually done to create green tourism economy, where tourism can be a catalyst of natural and cultural preservation, at the same time improving people's quality of life. Tourism development requires advanced technology, in transportation, information, and communication sector to ease tourist movement in accessing main attractions. Culture and nature are the main attractions for tourism, the question is how are they utilised to generate foreign exchange earnings but at the same time managing its sustainability.

It is imperatively expected that this scientific gathering will bring about new ideas and solutions as well as mutual commitment among practitioners and academicians to make tourism more sustainable and responsible, as mandated by UNWTO. Sustainable development is dealing with present and future generations welfare. Sustainable tourism is actually defined by the resonance of its sustainable development, benefiting present and future tourists and communities and viable within indefinite time, maximizing its economic gains.

Indonesia's tourism is mainly based on culture and nature as its main portfolio products. Resources related with the portfolio products has to be carefully and responsibly managed to ensure its sustainability. Research in new technological inventions and innovations have to be continuously developed to promote better tourism for our present and future generations. We cannot avoid using technology especially for the connectivity and digital marketing of our tourism, but we have to manage it to maximize its economic, cultural and natural benefit. I do hope that this conference will provide a great opportunity for the participants to share and understand both local and global issues of tourism development.

Wishing you all a very fruitful and rewarding conference.

Greetings from **Wonderful Indonesia**

Jakarta 18 September, 2017

Dr. Ir. Arief Yahya, M. Sc.
Minister of Tourism, Republic of Indonesia

Speech by Rector of Trunojoyo University Madura

Guest of Honour, Dr. Ir. Arief Yahya, M.Sc.
Minister for Tourism, Republic of Indonesia.
Mayor of Denpasar City,
Ida Bagus Rai Dharmajaya Mantra, SE.,M.Si.
Distinguished speakers,
Researchers and Colleagues,
Assalamu'alaikum Warohmatullahi Wabarokaatuh.



Praise goes to the most merciful God Allah SWT for the blessings of life and knowledge for us to gather on this meaningful occasion.

To start with we would like to warmly welcome the eminent speakers and delegates who have come from all over the world. We are indeed honoured to have you here with us, making this conference a truly international one.

Ladies and gentlemen,

The university of Trunojoyo Madura is located on Madura island as a part of East Java province area, and currently, it is on 16 years old. This university has committed to escalating its educational process and research activity. It is because those processes play a pivotal role to aim the vision of University of Trunojoyo Madura for a period 2014 – 2018. One of main strategies to achieve the University's vision is by implementing a cluster approach in order to increase the University of Trunojoyo Madura's competitive advantage. This approach is carried out by strengthening our research based on six potential sectors. These sectors are (1) salt and tobacco sectors, (2) food commodities sector (corn, cassava, cane, cattle, and sea commodities), (3) energy sector (oil and gas, renewable energy), (4) educational sector (formal and informal education), (5) social sector (worker and women studies), and (6) tourism and creative economic. All of these sectors are regarded to Madura resources.

Ladies and gentlemen

We do realise that the process of strengthening our research cannot be accomplished by ourself. It would be hard for the University of Trunojoyo Madura if only relaying it on our internal resources. A mutualism collaboration is needed, a collaboration which involves other external parties including universities, governments, businesses, and any other parties. Therefore, on this occasion, Faculty of Engineering, University of Trunojoyo Madura runs an International Conference for the second time called ICOSE (International Conference on Science and Engineering). The ICOSE is held in collaborating with several big universities namely Bali State Polytechnic, University of Pembangunan National Veteran of Surabaya, State University of Surabaya on one event named IJCST (International Joint Conference on Science and Technology) 2017. We hope that this conference will generate an advantageous knowledge sharing about previous research results and bright outlooks. Henceforward, University of Trunojoyo Madura wishes could achieve its vision with a better result.

In closing, we encourage delegates to participate actively in interesting discussions over the seminar periods. I wish everyone has a successful and fruitful conference.

Thank you very much

Wassalamu'alaikum Warrahmatullohi Wabarokaatuh

Speech by Rector of State University of Surabaya

It is with great pleasure that I extend my warmest welcome and best wishes to all keynote speakers, presenters, and participants of the 2017 International Joint Conference on Science and Technology (IJCST), “Science, Technology, Innovation, and Culture for Sustainable Development: Challenge on Green Industry.”



IJCST has worked with partners from higher education institutions and polytechnic from Indonesia and People’s Republic of China, namely UPN Jawa Timur, Universitas Negeri Surabaya, Universitas Trunojoyo, Politeknik Negeri Bali, Politeknik Negeri Jember, and National Cheng Kung University. Each institution contributes largely to the success of the 2017 IJCST by gathering academics and professionals across the country and overseas with aims at sharing recent investigations of the theme and hoping they would be fruitful to stakeholders in resolving challenges on green industry.

With regards to challenges that Indonesia and countries at the global level encounter particularly demographic plus in 2020 and a surge of primary needs including clean environment as well as increased international mobility of people from various cultures, the 2017 IJCST plays a crucial role in offering innovations and resolutions of those challenges. By so doing, proposals and recommendations withdrawn from the present conference will then serve as the basis for relevant stakeholders in policymaking.

I have always believed that IJCST has been an insightful platform for intellectuals and practitioners to continuously create breakthroughs in support of achieving sustainable development. My best wishes for a fruitful and productive conference.

With regards,

Prof. Dr. Warsono, M.S.
Rektor

Speech by Rector of University of Pembangunan Nasional Surabaya



Assalamualaikum Wr. Wb. , Good Morning

Honorable Guests:

Ministry of Tourism of Republic of Indonesia, "Ir. Arief Yahya, M.Sc"

Governor of Bali, "Made Mangku Pastika"

Directorate General of Research and Development, "Dr. Muhamad Dimiyati, M.Sc."

Director of Bali State Polytechnic, "Ir. Made Mudhina, M.T."

Honorable Keynote Speakers :

Mayor of Denpasar City, "Ida Bagus Rai Dharmawijaya Mantra, SE, M.Si"

Head of Badung Regency, "Nyoman Giri Prasta, S.Sos"

Attache of Educational Affairs – Embassy of France in Indonesia, "Prof. Dr. Emilienne Baneth Nouailhetas"

Prof. Dr. Zakaria Hossain, Prof. Moonyong Lee, Prof. Jyh-Ming Ting, Dr. Yusri Yusof, Reviewers, and Last but not least beloved participants,

Thank God for granting us with blessings, that we could gather here today in this very special moment, "International Joint Conference on Science and Technology 2017" organized by UPN "Veteran" Jawa Timur, Bali State Polytechnic, National Cheng Kung University, University of Trunojoyo, Surabaya State University, and Jember State Polytechnic.

Ladies and Gentlemen,

Environmental problems has been a very significant issue for many parties, especially for business actors. Either help the environment and hurt your business, or irreparably harm your business while protecting the earth. With such problems, it might be wise for us to focus on the promotion of several environmental-friendly steps, some to mention are low-carbon paths to industrial development; efficient use of non-energy raw materials; adoption of relevant products and technologies to meet environmental standards; adoption of environmental and related management systems with a view to entry into global value chains; and creation of businesses that can offer services in these areas.

The theme chosen is concerning with the current problem, Green Industry which is related to the increasingly polluted environment as well as the increasingly expensive energy problems that needs finding ways of savings. It is gratifying to note that the agenda of the seminar covering a wide range of very interesting items relating to the theme.

We believe this seminar is a great opportunity for all delegates to discuss the existing problems concerning science, technology, innovation, and culture for sustainable development in answering challenges for green industry.

Distinguished guests,

I wish this moment not only could enrich a broader knowledge, but also make new friends, and build net working in creating better future.

At last but not least, I would like to express my greatest appreciation to everyone who has supported and brought this seminar into success, and we truly apologize for any inconveniences may arise during the seminar.

Thank you

Wassalamualaikum Wr. Wb.

Denpasar, September 27, 2017

Rector of UPN "Veteran" Jawa Timur

Prof. Dr. Ir. H. Teguh Soedarto, MP

Conference Photographs















Sponsor or funding acknowledgements

We are delighted to acknowledge the financial support received from Bali state Polytechnic- Ministry of Research , Technology and Higher Education- Indonesian Government and also the excellent support received from Mayor of Denpasar City, Governoor of Bali Province, Rector of Trunojoyo University Madura, Rector of State University of Surabaya, Rector of University of Pembangunan Nasional Surabaya.

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Capital Strategy in Diversification Farming Efforts Using SWOT Analysis

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8 Capital Strategy in Diversification Farming Efforts Using SWOT Analysis

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Abstract. Wetland farming diversification program in the district of Bojonegoro, Tulungagung, and Ponorogo can not provide an optimal contribution to the income of farmers caused because farmers are not able to cultivate high value-added commodities due to limited capital. This study aims to identify the characteristics of farming, capital pattern, stakeholder role, to analyze farming to know the pattern of planting suggestions and prospects, and to formulate capital facilitation strategy. Farming capital is obtained through loans in financial institutions with different patterns. Small farmers tend to utilize savings and credit cooperatives, microcredit, and loan sharks, while farmers with large wetland holdings tend to utilize commercial banks. Penelitian using descriptive method of farming profit analysis, and SWOT. The government through the banking institutions have provided much facilitation in the form of low-interest loans with flexible payment method. The generic strategy of selected capital facilitation is to empower farmers through farmer groups who have the capability in managing the capital needs of their members.

1. Introduction

Diversification of farming is believed to be an effective way to increase agricultural productivity which in turn will have an effect on increasing household incomes of farmers. Development of farming diversification needs to be done rationally and dynamically by considering environmental factors and market demand in order to provide maximum benefit in increasing farmer's production and income [1]. Low farm productivity has a strong correlation with low farm income. This causes the farmer to spend most of his time doing other economic activities, such as farming, trading, and other business / service activities to supplement his income. As a result, energy, time and business capital that should be used for farming activities to be not optimal because it is used also to perform other activities. The situation causes the farming can not provide optimal results.

According to [2], the success of farming diversification is determined by the capability of capital and the availability of credit and the feasibility of farmers using credit in addition to other technical factors such as water availability, land characteristics, agro-climate conditions, socio-cultural characteristics of the community associated with technology adoption and development, As well as the accessibility and smoothness of production marketing with infrastructure support. [3] Also adds that the limited capital of farmers is the main factor that hampers the development of diversification and lowering the productivity of farming. Capital is used by farmers to finance farming activities, such as buying production facilities (seeds, fertilizers, and medicines), labor wages, and other operational costs. Limited capital will certainly limit the farmers to get the means of production so that farming can not provide optimal results.



Credit institutions for farming communities, including: Banking (Village Bank, Lumbung Desa and Bank Rakyat Indonesia), State Pawn Company, and Cooperative (Village Unit Cooperative / Cooperative Cooperative / Koperta Cooperative). The government launched various types of financing for the agricultural sector. The types of credit for agricultural financing currently being launched by the Ministry of Agriculture are Food and Energy Security Loans (KKP-E), Micro and Small Business Loans (KUMK-SUP 05), People's Business Credit (KUR). The use of formal sector financing sources of the KKP-E credit program, especially for horticultural cultivation, is still minimal [4]. The low accessibility of the farmers to the capital services is also due to the fact that the capital institution appointed to distribute it is not entirely on the side of the farmers, the interest is too high, the guarantee of conditions that farmers can not meet, the time-consuming disbursement process, the long-running bureaucracy. As a result farmers switched to middlemen to get a capital loan quickly and not long-distance, for it needs an institutional strengthening [5].

The problems faced in the development of farm diversification through capitalization facility is How can farm diversification pattern characteristic of capital in the research area, How can the role of stakeholders towards the provision of capital facilities on farm diversification in the research area, and How can the strategies undertaken in the development of farm diversification?

The research was carried out with consideration of the limitations of the farmers in the capital, institutional role and function of farmers and finance have not gone well, the accessibility to financial sources formally remains low, inequality in access to services of farming to the farmers as well as the lack of stimulus from institutions of funding has resulted in a lack of confidence of farmers to run his farm, it is necessary to review the role of stakeholders in the provision of capital.

2. Method

The location of research activities in three (3) regions include: Bojonegoro, Ponorogo, and Tulungagung. The timing of the 6 (six) months starting April to October in 2016. Research uses descriptive research with qualitative techniques for collecting, processing, classifying to obtain information about the characteristics of the farm and the capitalization of research sites, as well as the formulation of the strategy Development of farming diversification through capital facilitation.

2.1 Details of the research stages

2.1.1. Identification characteristic farm diversification patterns of capital. Aiming to get information about the sources of capital that are used for farming, which is often chosen financing scheme, the informal capital resources, and how it is used by farmers. The method used is descriptive method [6].

2.1.2. Identify the role of stakeholders for the provision of capital facilities. Diversification farms exist in the research area aims to obtain information about the firms in the form of a pattern of capital facilitation Farming more efficient and effective. The method used is comparative descriptive method.

2.1.3. Commodity farm diversification development strategy priorities. Strategy development of farm diversification of commodities priority in the research area aims to explore factors that the strengths, weaknesses, opportunities and threats farm diversification of commodities priority in the research area and then formulate a development strategy with a focus on tightening clamp existing institutional and capital farm, has it under the method SWOT [7].

2.1.4. Capturing Techniques and Data Collection. The data were collected by using non-probabilistic sampling technique in stages according to the research stage. The sample of the study were respondents from farmers as farmers, farmers group (poktan), and academicians. The sample of the study came from selected sub-districts that represented the diversification location of the farm. Data collection techniques were conducted by interview, questionnaire, observation, and documentation study. The data collected in this study consist of primary data and secondary data. Primary data were obtained from field observation and in-depth interviews with respondents.

Secondary data were obtained from **the** literature in order to obtain the theoretical foundation and the supporting data relating to materials research (desk research). Extracting information from respondents are either structured using questionnaires and tools are no structures to conduct in-depth interviews (in-depth interview) that aims to explore as much information. In the process of acquisition of information from respondents conducted through expert surveys and brainstorming through group discussion forum

2.1.5. *Data analysis*. Formulation of alternative strategies for diversification of farming development using SWOT analysis. SWOT matrix can describe four possible alternatives strategy, the strategy of power-opportunities (SO strategies), the strategy of weakness-opportunities (WO strategies), strategy - ancaman strength (ST strategies), and the weakness of the strategy-threats (WT strategies) [7].

3. Result and Discussion

Total population Ponorogo produced from BPS projection is equal to 867 393 inhabitants in 2015 recorded the District Ponorogo have the largest populations, namely 76 785 inhabitants, followed by the District Babadan 65 452 inhabitants and the District Ngrayun many as 56 373 people. Kepadatan Ponorogo population in 2015 reached 632 people per km². The highest population density is found in Kecamatan Ponorogo which is 3,442 people per km² and the lowest in Pudak Sub-district is 192 people per km². Sectoral employment in Ponorogo is still dominated by the agricultural sector, although declining from the year 2014 - 2015, because the agricultural sector is highly dependent on natural conditions, the risk of business failure is quite high.

The problem faced is the existing farmer institution has not been able to move the farmers in the expected direction. Poktan and Gapoktan have not been able to mobilize their members to take an active role in empowering government programs such as SL-PTT, SL-GAP, PMI, dissemination and counseling. Generally, farmers are more interested in programs that are of direct assistance. Another problem is that farmers do not feel the direct benefits of the group because not all important problems faced can be resolved, such as low harvest prices, marketing, selection of cropping patterns, scarcity of fertilizer, high seed prices, and capital. On the other hand, the government has not been able to provide effective solutions through groups for these problems. As a result, group activities and government programs can not be properly implemented. Groups become helpless, whereas Poktan or Gapoktan is the motor of agricultural progress.

Limited capital has indeed been responded by the banking and other financial institutions by providing various credit schemes. But still, small farmers have difficulty accessing credit due to the lack of collateral. Farmers also often have difficulty facing the banking administration process, especially those related to the risk of crop failure and farming costs. This is what causes the People's Business Loan (KUR), Credit for Food and Energy Security (KKP-E) and A similar program of success is still far from expectations. Although the government instructed that these programs be without collateral, but in practice the banks still use the guarantee. Data from Bank Indonesia Jember shows that credit distribution for agriculture sector is very small, only about 5%, while industry and trade sectors reach 47.3% and 32.35% of total loans disbursed. This fact indicates that the banks are less interested in the existing agricultural business model as it is today.

Development strategy of farming diversification is arranged so that its operation can be carried out effectively. To achieve this, many factors need to be considered, including their compatibility with the actual problems experienced by farmers, the characteristics of the farming community, and the institutional readiness of the farmers and their implementing organizations. Therefore, a comprehensive analysis is needed to find out key development strategies. To generate a key strategy of diversifying farming development through capital facilitation in Bojonegoro, Ponorogo and Tulungagung districts, SWOT analysis was used.

Exploration internal factors (strengths and weaknesses) and external factors (opportunities and threats) is done through expert survey with a number of sources that originated the main actors in

agriculture and colleges. ¹¹ Exploration results contained in the form of IFAS (Internal Strategic Factors Analysis Summary) and EFAS (External Strategic Factors Analysis Summary). ¹⁸

IFAS (Internal Strategic Factors Analysis Summary)

Strength (Strong):

- 1) The existence of various types of funding assistance for farming (grants, rolling, and interest subsidies)
- 2) The existence of poktan and extension agents that spread to remote villages in adequate numbers
- 3) Small farmers prefer access to capital managed by farmer groups
- 4) The potential for self-supporting capital is quite high

Weakness (Weakness):

- 1) Weak supervision in fund disbursement
- 2) Limitations of managerial and managerial technical skills
- 3) Lack of strict sanctions against bad loans
- 4) Donated funds are not on target
- 5) Overlapping funding making it less effective
- 6) Less consideration of phasing and business scale
- 7) Weak farmers' responsibility towards the use of farm funds
- 8) The practice of farm funding programs is generally unsustainable

EFAS (External Strategic Factors Analysis Summary)

Opportunity (Opportunity):

- 1) The capital requirement of farming is quite high
- 2) Government's support and commitment to capital facilitation
- 3) The prospect of a promising commodity market
- 4) There is a chance of cooperation / partnership of farmer group with banking / financial institution
- 5) The existence of cooperation opportunities poktan / gapoktan with business partners for agribusiness activities
- 6) There are grants and agricultural subsidies that are accessible to groups and individual farmers
- 7) Opportunities utilize CSR (Corporate Social Responsibility)

Threat (Threat):

- 1) Risk of business failure / harvest
- 2) Market competition with similar commodities from other producers
- 3) Fluctuations in harvest prices
- 4) The existence of various sources of capital
- 5) Bank administrative requirements are still burdensome, especially collateral
- 6) The role of middlemen is still dominant in the capital of small farmers
- 7) The use of credit for non-agricultural activities (consumptive / household)
- 8) The risk of bad debts is quite potential

Formulation of Generic Strategies for Farm Diversification Development through Facilitation of Capital

To formulate generic strategy of diversification development of farming system through capital facilitation, internal and external factors are analyzed using SWOT method. Analysis is done by confronting the internal factors to the external and then attempted a strategy to overcome them. The resulting strategy was used as the basis for developing models of development in Bojonegoro, Ponorogo and Tulungagung districts. There are eight strategies that should be used in developing a model farm diversification.

S - O Strategy

Key strategies that can be done in the development of farm diversification by facilitating poktan capital is capable of managing the capital to develop high value agri-commodities and m endorong strengthening the group's capital through cooperation with banks / financial institutions and companies.

W - O Strategy

This strategy aims to address internal weaknesses by taking advantage of external opportunities. Key strategies that can be done is p Training in technical and managerial board poktan / gapoktan in the areas of capital management and developing poktan / gapoktan by growing a productive unit

Strategy S - T

The strategy aims to avoid or reduce the impact of the threat of using force there. Key strategies that can be implemented are: 1) Develop a savings and loan in poktan / gapoktan to encourage farm diversification; and 2) increase its cooperation with business partners to develop investment markets and farming .

Strategy W- T

The strategy aims to minimize weaknesses and avoid threats faced in the development of farm diversification in the research area. Key strategies that can be done is repairing mechanism for channeling funds to avoid business failure and optimalization companion role to strengthen the business units of the group.

4. Conclusion

Development of a model farmer groups powerless is a generic model that can be done in District Ponorogo to empower farmers / farmer households in order to have sufficient ability to do farming properly and are able to manage aid capital effectively, and become embryos *corporate farming* in order to have the ability to empower members and the group referred to in the first goal, and capable of managing / facilitating capital for its members.

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9

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