

A prospective strategy for institutional development of Gayo coffee agroindustry in Aceh province, Indonesia

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Abstract

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Agroindustry institution is one of the most strategic elements in agroindustry development. Institutional development of Gayo coffee agroindustry in Aceh province – Indonesia can be performed through prospective analysis, which analyses future situation by referring to the current situation. The purpose of the study was to design prospective strategy for institutional development of Gayo coffee agroindustry by using prospective analysis and analytical hierarchy process approach. This study resulted in three prospective scenarios in agroindustry institution development, which are optimistic scenario, moderate scenario, and pessimistic scenario. These three scenarios become guidelines for the policy makers in making decision according to key factors that include human resources capacity, community consciousness, knowledge basis, partnership between the actors, and local government support. Optimistic scenario is the most ideal scenario for developing Gayo coffee agroindustry in the future.

Keywords: agroindustry; prospective analysis; analytical hierarchy process; institutional development, Gayo coffee

Introduction

In world market, coffee has always been buyers' target from many countries and is one of the most important commodities in the world (Ponte, 2004; Taylor, 2005). Among the countries that consume coffee the most are Netherlands, United States, Japan, England, Italy, and German, with average market demand by 5.8 million tons per year and continue to increase by 0.5 percent every year (SCAA, 2005). Indonesia is one of coffee-producing countries in the world, and exporting 11 percent or equal to 600 thousand tons per year from total world coffee trade. Indonesia has strategic position because it is the fourth largest coffee exporting country after Brazil, Colombia, and Vietnam. Average coffee produc-

tivity of those exporting countries are: Vietnam 1.540 kg/ha/year, Colombia 1.220 kg/ha/year, and Brazil 1.000 kg/ha/year, while Indonesia by 792 kg/ha/year (AEKI, 2013). One of the coffee-producing provinces in Indonesia is Aceh province which is well known as Gayo coffee (*C. arabica*) that contributes by 28.23 percent from total national coffee production (Salima et al., 2012; Kementan, 2013; AEKI, 2013).

For Association of Southeast Asian Nations (ASEAN) trade, the biggest coffee-producing country to be reckoned is Vietnam. However, the advantages of Gayo coffee compared to other coffee in Indonesia and in the world is its distinctive taste that it has achieved Geographic Index certificate as one of specialty coffee with high selling price in the world (Saputra, 2012). Specialty coffee means that Gayo coffee has dis-

tinctive aroma with complex flavour and strong body, which make Gayo coffee as high-quality coffee that has high demand in world coffee trade (ICCRI, 2008; Putri et al., 2013).

According to International Coffee Organization report (ICO, 2011), it is mentioned that the trend of coffee trade to the importing countries is increasing. This condition has itself led to increased demand for Arabica coffee in world trade from year to year. However, the increase of Gayo Arabica coffee world market was not followed by the increase in farmer's income (Almqvist, 2011; Walker 2015), and one of the problems is that the synergy between the actors (institution) of Gayo coffee agroindustry has not been well established (Jaya et al., 2011; Putri et al., 2013; Fadhil et al., 2017), meanwhile, the institution could play important role as distributing media for agricultural products innovation, certification, and management of food industry quality, such as technology application of drying, harvesting, transporting, and packaging equipment (Hennessy, 1996; Silitonga, 2008; Budi et al., 2009; Putri et al., 2013; Walker, 2015, Fadhil et al., 2018a).

Agroindustry institution is one of formal and non-formal units that regulate interaction or relation, which can facilitate coordination or cooperation among various individuals. This relationship system is established as a way to rule involved individuals in order to be able to live well with social life and not harm or threat to one another life.

Prospective analysis is a technique to determine various strategies that may happen in the future by referring to current situation (Fig. 1). Prospective analysis is very helpful to prepare strategic steps and to consider whether changes are needed in the future (Godet, 2010). Using prospective analysis will obtain a number of information regarding which key factors and strategy purposes will play a role in institutional development of Gayo coffee agroindustry in accordance with the needs of the stakeholders' that are involved in the future utilization. Furthermore, those key factors and strategy purposes (needs) are used to define and describe future probabilities evolution for the institutional development of Gayo coffee agroindustry in Aceh Province-Indonesia.

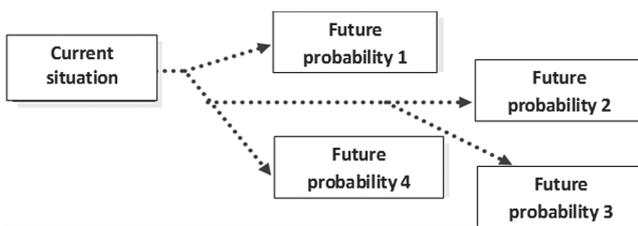


Fig. 1. Future scenario in prospective analysis

The purposes of the study are to identify contributing factors in the institutional development of Gayo coffee agroindustry in Province of Aceh, Indonesia, to determine strategy scenario prospectively, and to formulate alternative priority of the strategy.

Matherials and Methods

This study was performed with several steps: (1) determining expert as decision maker; (2) participatory prospective analysis approach; and (3) analytical hierarchy process (AHP). Data collection was carried out through interviews, questionnaires distribution, direct observation, and synthesis of data on the field. The experts, who are considered competent to make decision, have expertise based on their formal education on the field under study, experience and employment history, and their practice on the field related to Gayo coffee.

In analysing these various alternatives for institutional development of Gayo coffee agroindustry, opinions were collected from six experts consisting of lecturer from Syiah Kuala University, coffee farmer, local coffee entrepreneur, Department of Agriculture of Central Aceh Regency, Agency for Technology Assessment and Application (BPPT) Aceh, and coffee community. Opinions collected from the experts

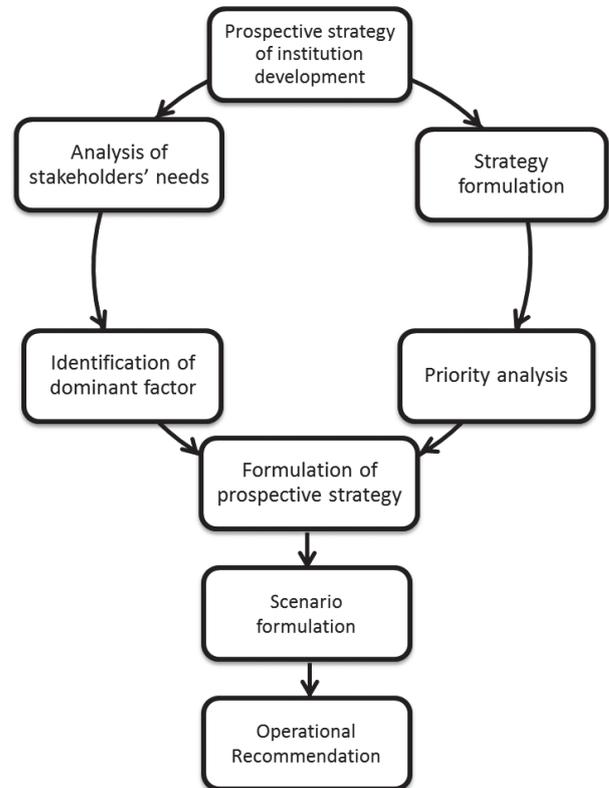


Fig. 2. Study process flow diagrams

were then analysed to obtain prospective strategy and priority of institutional development of Gayo coffee agroindustry that are important to be conducted in the future. Process flow diagram of the study is presented on Fig. 2.

Prospective analysis

Prospective analysis is used to predict various probabilities that will occur in the future. Prospective analysis is not the same with forecasting because this analysis can predict alternatives that will happen in the future, either the positive probability (desired) or the negative one (undesired). The uses of prospective analysis are for: (1) to prepare strategic action that need to be done; (2) to determine strategic goal and main person interests, and also (3) to define and describe future probabilities evolution (Godet, 2000; Bourgeois and Jesus, 2004; Godet et al., 2004; Benjumea-Arias et al., 2016). Process of defining planned scenario that may occur in the future is by identifying how the key elements can change, after that examining which change that might occur concurrently (combination of factor and situation) and then describing scenario by including changes that will occur (Eriyatno and Sofyar, 2007; Toumache and Rouaski, 2016). Prospective analysis is also very suitable to use for policy strategy design (Godet, 2010; Dunn, 2016).

Prospective analysis is an expansion from Delphi method which uses expert’s group opinion to make decision. Steps in prospective analysis according to Hardjomidjojo (2016) and Bourgeois and Jesus (2004) are:

1. To define system goal that is specifically studied so that it is understood by all experts whose opinion will be asked. It was done in order to make the experts understand the scope of the study and to equate their views on the studied system.

2. To identify factors that affect in achieving the goals, which usually are the stakeholders’ need in the studied system. Based on study goals, the experts are asked to identify factors affecting in the goal achievement. Experts are expected to represent stakeholders from the studied system, so that all system element interests can be represented. This research is studying factors affecting in Gayo coffee agroindustry development. After identifying, those factors are then defined so that all experts have same perception, so they can assess those factors according to the factor definition and system goal. In this step, definition from each factor must be clear and specific.

3. To assess direct influence between factors. All identified and defined factors will be assessed their direct influence between factors by referring on analysis prospective assessment (Table 1). Result from matrix of experts’ opinion combination was processed using MICMAC software that was developed by the Institut d’Innovation Informatique pour l’Entreprise, under the supervision of their creators, Labora-

tory for investigation in Prospective Strategy and Organization, LIPSOR (Godet et al., 2004). So, it can be visualized in the diagram of influence and dependence between factors in analysed system (Fig. 3).

4. Organizing situation that may happen (state) in each criteria based on dominant factor obtained on step 3, organize situation that may occur in the future. In each factor, one or more situation can be made with the following terms: (1) the situation must have very big chance to happen in the future, and (2) the situation is not a level or a size of a factor (big, small, medium, or good and bad) but is a description of a situation of a factor. The dominant factor of the scenario is a choice based on determinant variable factor (quadrant I) and liaison variable factor (quadrant II).

Table 1. Prospective analysis assessment guidelines

Score	Information
0	No influence
1	Less influence
2	Moderate influence
3	Strong influence

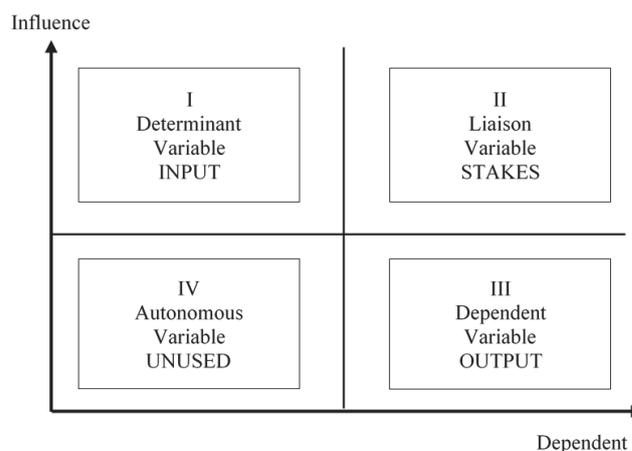


Fig. 3. Diagram of influence and dependence between factors in the system

5. Arranging scenario. Scenario is a mutually compatible combination of factor situation from the most optimistic to the most pessimistic situation.

6. Scenario analysis and strategy arrangement. According to the scenario prepared on the previous stage, discuss strategies that need to be done for achieving the desired scenario or to avoid scenario that has negative impact to the system.

Analytical Hierarchy Process

Analytical Hierarchy Process (AHP) means to make decision that identify structure of the problem, and then

assessed to choose alternative of problem solving. AHP is used to organize information and judgement in choosing the most preferred or the best alternative (Saaty, 2008). In this study, AHP analysis was done by using Expert Choice software version 11 (Expert-Choice, 2004). According to Saaty (2008), idea and work principle of AHP are as following:

a. Hierarchy arrangement: Problem to be solved is elaborated into its elements, which are criteria and alternatives that are then arranged into hierarchical structure.

b. Criteria and alternatives assessment: Criteria and alternatives are assessed through pairwise comparison in the scale 1 to 9 in expressing opinion. Score and definition of qualitative opinion from Saaty comparison scale can be seen on Table 2. Priority determination for each criterion and alternative, it needs to conduct pairwise comparison. Relative comparison values are then processed to determine relative rank from all alternatives. Either qualitative or quantitative criteria can be compared based on the determined judgement to produce value and priority.

c. Logical consistency: All elements are logically grouped and consistently ranked according to logical criteria.

Table 2. Comparison scale

Value	Information
1	Criterion A is as important as criterion/alternative B
3	A is a slightly more important than B
5	A is clearly more important than B
7	A is very clearly more important than B
9	A is absolutely more important than B
2, 4, 6, 8	If in doubt between two adjacent value
1 / (2-9)	The opposite of information of value 2 to 9

Table 3. Definition of factor in institutional development strategy

No	Needs	Definition
1	Knowledge basis	Improving agroindustry actors' knowledge basis
2	Partnership between actors	Establishing intensive partnership between agroindustry actors
3	Learning culture	Developing learning culture through organization
4	Local government support	Support and advocacy from local government for agroindustry actors
5	Cohesiveness of social relation	Establishing equal and equitable cohesiveness in social relation in farmer organization
6	Local wisdom	Developing local wisdom as basis of capital social
7	Community participation	Fostering community spirit to participate in self development
8	Group performance coaching	Developing group performance coaching through social learning approach
9	Community consciousness	Encouraging community/group consciousness on the basis of need.
10	Trainer competence	Enhancing trainer competence in facilitating the farmers.
11	Human resources capacity	Enhancing human resources capacity
12	Financial	Financial support from financial institution
13	Institutional internalization	Establishing stability of institutional internalization

Results and Discussion

The need of institutional development

According to the experts' opinion, the institutional development of Gayo coffee agroindustry is expected to meet the 13 needs (Table 3). Those needs are clearly defined so as to facilitate in analysing the key factors as the determinant in agroindustry institutional development. Analysis result is processed using MICMAC analysis software which is visualized in diagram of influence and dependent between factors (Fig. 4).

Factors in quadrant I and quadrant II are key factors that are very affecting on the development of Gayo coffee agroindustry. From the combination of experts' opinion, 5 key factors that are affecting institutional development were obtained: (1) knowledge basis; (2) partnership between actors; (3) local government support; (4) community consciousness, and (5) human resources capacity. Then, those factor keys, before the process of formulating scenario for institutional development of Gayo coffee agroindustry was conducted with all of its probability that may happen in the future, priority alternative was analysed in advance using Analytical Hierarchy Process (AHP).

Formulation of strategy priority

By determining priority in the strategy for institutional development of Gayo coffee agroindustry using with AHP method, it was obtained the highest to the lowest value (Fig. 5). After that, sorting is done to obtain priority with highest value as the main priority and the one with lowest value as the last priority (Table 4).

According to AHP analysis, it is seen that the main priority in the strategy for institutional development of Gayo coffee agroindustry is enhancing human resources capacity

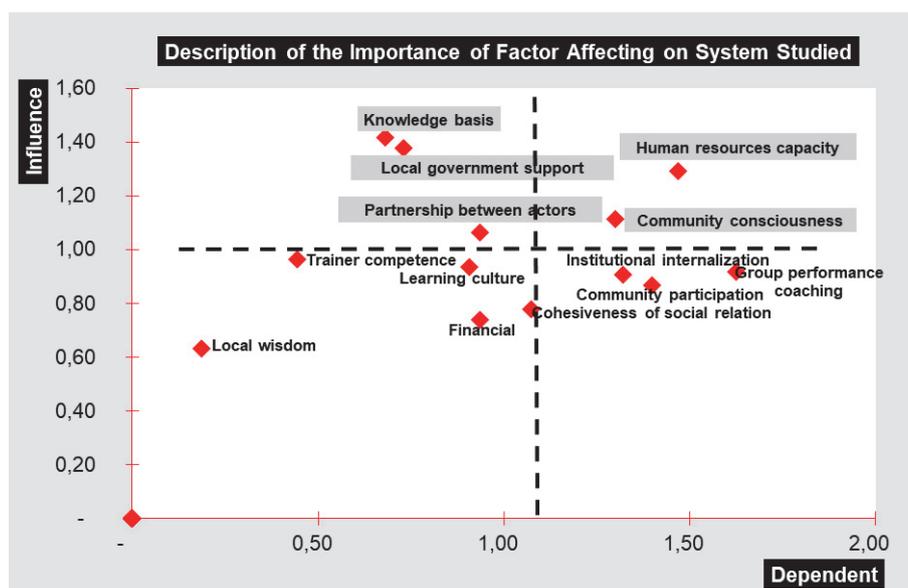


Fig. 4. Prospective analysis for institutional development using MICMAC software

Table 4. Priority of institutional development strategy

Strategy	Value	Priority
Improving agroindustry actors' knowledge basis	0.151	3
Establishing intensive partnership between agroindustry actors	0.112	4
Support and advocacy from local government for agroindustry actors	0.072	5
Encouraging community/group consciousness on the basis of mutual need	0.236	2
Enhancing human resources capacity (SDM)	0.429	1

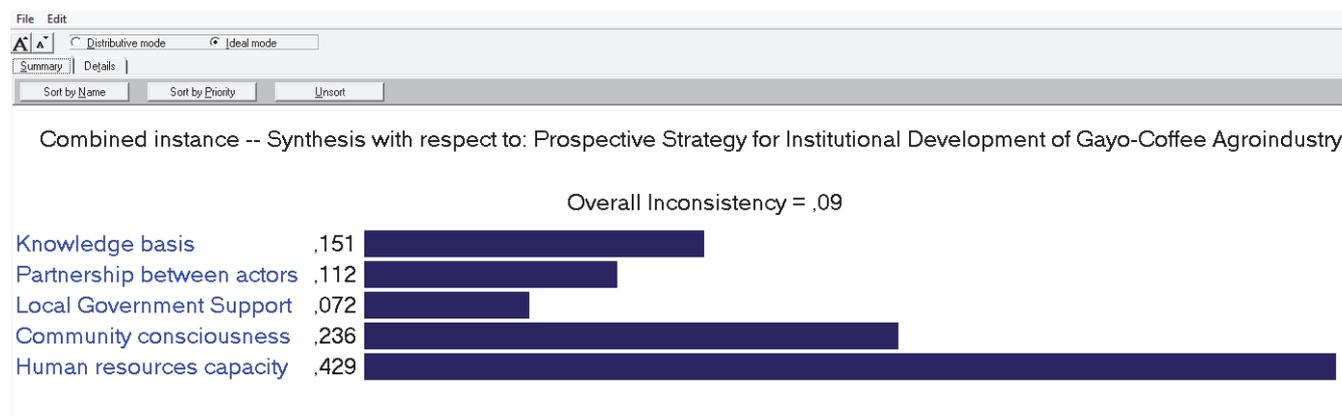


Fig. 5. Analysis result using Expert Choice software

(SDM) with highest value by 0.429. This indicates that efforts to increase farmer capacity become very strategic, either for now or for the upcoming time. This opinion is similar to the study conducted by (Maarif, 2000; Ibrahim and Zailani, 2010; Wibowo, 2010; Jaya et al., 2011; Bilhak and Maarif, 2014, Fadhil et al., 2018b).

Formulation of prospective strategy

Scenario of prospective strategy for institutional development of Gayo coffee agroindustry was arranged based on key factors affecting on the system established. According to those factors, it can describe various probability of situation that will occur in the future. From the five key factors

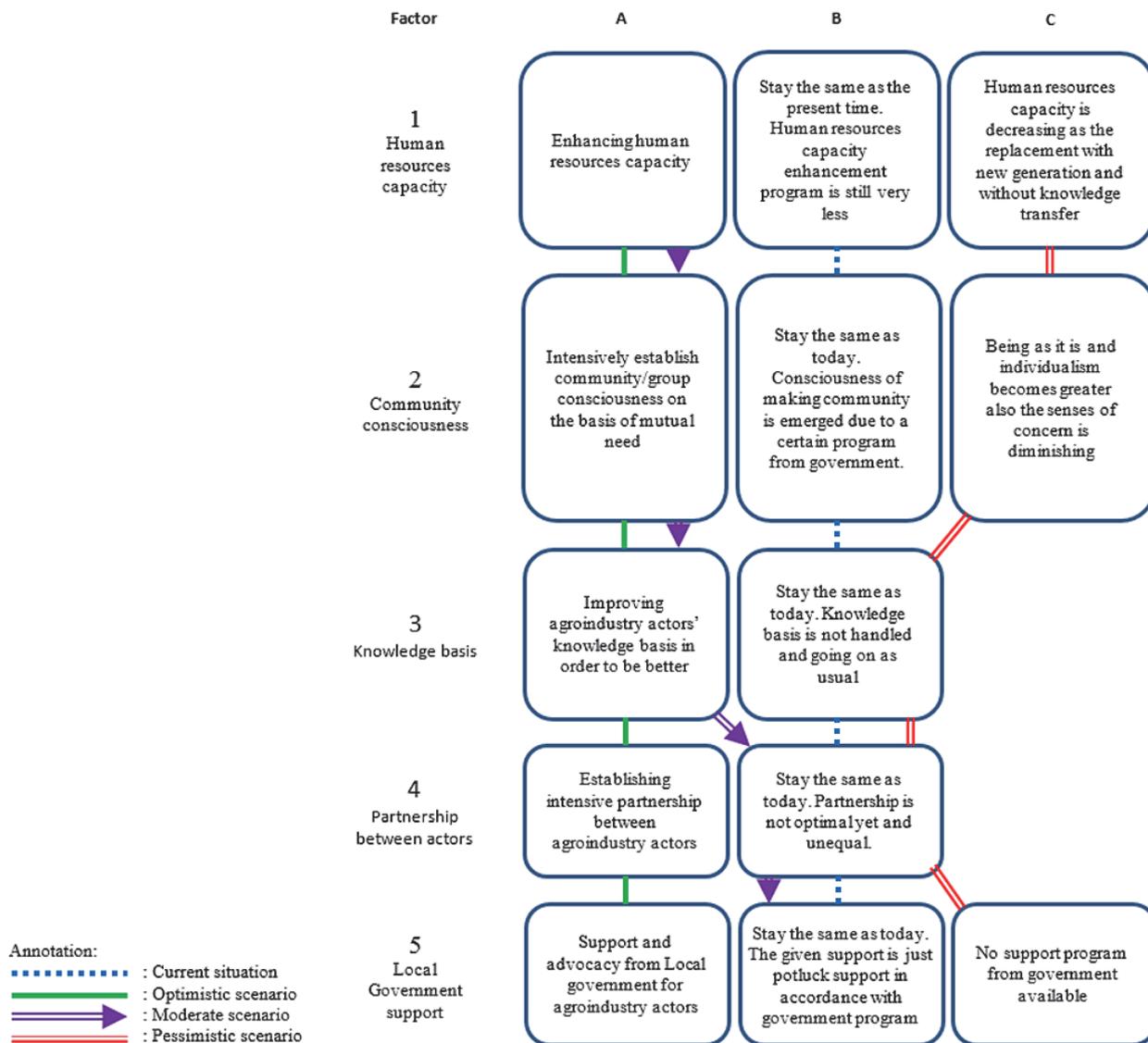


Fig. 6. Mapping for institutional development of Gayo coffee agroindustry in the future

affecting on the agroindustry institutional development, the situation which are more likely to happen was chosen.

Mapping of situation scenario in the future on the institutional development of Gayo coffee agroindustry can be seen on Fig. 6. Scenario was built to ease in visualizing situation which certainly will affect the plan and action. Next, scenario was organized to obtain the best operational recommendation result with every dynamics that is very likely to happen all the time in the future, by referring on what already exists at the moment.

According to Hardjomidjojo (2016), prospective scenario is developed to predict probabilities that may occur on certain factor, whether it will grow better than the present time, will stay the same, or will become worse than today. This result can give awareness for the policy makers to run the chosen strategy.

Prospective scenario for institutional development of Gayo coffee agroindustry is mapped into four situations: (1) current situation, (2) optimistic scenario, (3) moderate scenario, (4) pessimistic scenario. Based on those scenarios, the

policy makers can make it as guidelines in deciding planning ahead with all consequences that will surround it. A policy that comprehensively guided by a certain process will be more focused conforming to what is expected to achieve the desired goals.

Operational scenario recommendation

The main result of the scenario preparation for institutional development of Gayo coffee agroindustry is to obtain operational recommendation that is expected to occur in the future (Table 5).

According to the operational scenario analysis, it is found that the most expected future scenario is Scenario I, which is the best scenario (optimistic): (1A) enhance human resources capacity, (2A) establish community or group consciousness intensively as a mutual need, (3A) improve agroindustry actors’ knowledge basis to be better, (4A) establish intensive partnership between agroindustry actors, and (5A) support and advocacy from local government for agroindustry actors.

Next, Scenario 2, the moderate scenario, is a mid-scenario that was developed with the most minimum condition, so it reached the situation in question. These moderate scenario conditions are (1A) enhance human resources capacity, (2A) establish community or group consciousness intensively as a mutual need, (3A) improve agroindustry actors’ knowledge basis to be better, (4B) stay the same as today, partnership is not optimal and unequal, and also (5B) stay the same, the given support is just a potluck support in accordance with government program.

Table 5. Scenario of institutional development

No	Scenario	Situation
1	Optimistic	1A – 2A – 3A – 4A – 5A
2	Moderate	1A – 2A – 3A – 4B – 5B
3	Pessimistic	1C – 2C – 3B – 4B – 5C

Scenario 3, the pessimist scenario, is the most undesired scenario in the future. Scenario pessimist includes: (1C) Human resources capacity is decreasing as the replacement with new generation and without knowledge transfer; (2C) Being as it is and individualism becomes greater also the senses of concern is diminishing; (3B) Stay the same as today. Knowledge basis is not handled and going on as usual; (4B) Stay the same as today. Partnership is not optimal yet and unequal; (5C) No support program from government available.

Operational implication of these three scenarios is very determining the direction of the institutional development of Gayo coffee agroindustry that will be established. Optimistic scenario needs to be a serious concern in order to make it realized, by

considering the determining factors, which are: (1) human resources capacity, (2) community consciousness, (3) knowledge basis, (4) partnership between actors, and (5) local government support.

Conclusion

Prospective effectively strategy analysis is used in formulating plan of institutional development of Gayo coffee agroindustry. Prospective strategy is organized based on linkages between scenarios that may occur in the upcoming time. Scenarios resulted will become guidelines for the policy makers in making decisions to be conducted according to the key factors as the main priority which includes human resources capacity, community consciousness, knowledge basis, partnership between actors, and local government support. Optimistic scenario is the most ideal chosen scenario and certainly is very expected to be realized in the future for the institutional development of Gayo coffee agroindustry in Aceh Province – Indonesia.

Suggestion

This study is still limited in mapping key factors and the scenarios that are likely to happen in the future. Further research is still very necessary regarding to the various program alternatives and activity that are needed to direct various key factors that are obtained in this study. Because the key factors that have been successfully formulated are still very general, elaborating action design for each factor is still possible to be conducted in further research.

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References

AEKI (Asosiasi Eksportir dan Industri Kopi Indonesia Daerah Aceh) (Association of Indonesian Coffee Exporter and Industries of Aceh) (2013). Laporan Realisasi Ekspor Kopi Arabika Provinsi Aceh (Report of Arabica Coffee Export Realization of Aceh Province). Aceh: AEKI (Id).

Almqvist, A. C. (2011). *Coffee, a fair trade? A study about fair trade certified Gayo coffee farmers in Aceh, Indonesia*. Department of Horticulture, Faculty of Landcape Planning, Horticulture and Agricultural Science, Swedish University of Agricultural Sciences (SLU).

Benjumea-Arias, M., Castañeda, L., & Valencia-Arias, A. (2016).

- Structural Analysis of Strategic Variables through MICMAC Use: Case Study. *Mediterranean Journal of Social Sciences*, 7(4), 11-19.
- Bilhak, A., & Maarif, S.** (2014). Pengembangan Agribisnis Kopi dalam Kerangka Pembangunan Ekonomi Wilayah di Kabupaten Aceh Tengah (Studi Kasus: Kabupaten Aceh Tengah). *Teknik PWK (Perencanaan Wilayah Kota)*, 3(2), 254-261 (Id).
- Bourgeois, R., & Jesus, F.** (2004). Participatory prospective analysis: exploring and anticipating challenges with stakeholders. *CAPSA Monographs. No 46*. United Nations.
- Budi, L. S., Maa'rif, M. S., Sailah, I., & Raharja, S.** (2009). Strategi Pemilihan Model Kelembagaan dan Kelayakan Finansial Agroindustri Wijen. *J. Tek. Ind. Pert.*, 19(2), 56-63 (Id).
- Dunn, W. N.** (2016). *Public policy analysis*. 5th Edition. New York: Rotledge, Taylor & Francis Group.
- Eriyatno & Sofyar, F.** (2007). *Riset Kebijakan, Metode Penelitian Untuk Pascasarjana*. Bogor: IPB Press (Id).
- Expert-Choice** (2004). *Expert choice version II*. Expert choice resource aligner. Expert Choice, Inc.
- Fadhil, R., Maarif, M. S., Bantacut, T., & Hermawan, A.** (2017). Sistem penunjang keputusan multi kriteria untuk pengembangan agroindustri kopi gayo menggunakan pendekatan fuzzy-eckenrode dan fuzzy-topsis. *Journal of Agroindustrial Technology*, 27(1), 103-113 (Id).
- Fadhil, R., Maarif, M. S., Bantacut, T., & Hermawan, A.** (2018a). Development Strategy for a Quality Management System of Gayo Coffee Agro-Industry Using Soft Systems Methodology. *Periodica Polytechnica Social and Management Sciences*, 26(2), 168-178.
- Fadhil, R., Maarif, M. S., Bantacut, T., & Hermawan, A.** (2018b). Formulation for Development Strategy of Gayo Coffee Agroindustry Institution Using Interpretive Structural Modeling (ISM). *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 66(2), 487-495.
- Godet, M.** (2000). The art of scenarios and strategic planning: tools and pitfalls. *Technological Forecasting and Social Change*, 65(1), 3-22.
- Godet, M.** (2010). Future memories. *Technological Forecasting and Social Change*, 77(9), 1457-1463.
- Godet, M., Monti, R., Meunier, F., & Roubelat, F.** (2004). *Scenarios and strategies: A toolbox for scenario planning*. Lipsor Working Papers, 3th issue. Laboratory for investigation in prospective and strategy (LIPSOR).
- Hardjomidjojo, H.** (2016). *Metode analisis prospektif (Prospective analysis method)*. Departemen Teknologi Industri Pertanian, Fakultas Teknologi Pertanian, Institut Pertanian Bogor (IPB), Bogor (Id).
- Hennessy, D. A.** (1996). Information asymmetry as a reason for food industry vertical integration. *American Journal of Agricultural Economics*, 78(4), 1034-1043.
- Ibrahim, H. W., & Zailani, S.** (2010). A review on the competitiveness of global supply chain in a coffee industry in Indonesia. *International Business Management*, 4(3), 105-115.
- ICCRI (Indonesian Coffee and Cocoa Research Institute)** (2008). *Panduan Budidaya dan Pengolahan Kopi Arabika Gayo (Guidelines of Cultivation and Processing of Gayo Arabica Coffee)*. Pusat Penelitian Kopi dan Kakao Indonesia. Jakarta: Azrajens Mayuma (Id).
- ICO (International Coffee Organization)** (2011). *Annual Review 2011*. London, UK.
- Jaya, R., Machfud & Ismail, M.** (2011). Aplikasi Teknik ISM dan ME-MCDM Untuk Identifikasi Posisi Pemangku Kepentingan dan Alternatif Kegiatan Untuk Perbaikan Mutu Kopi Gayo (Application of ISM and ME-MCDM techniques for the identification of stakeholders position and activity alternatives to improve quality of gayo coffee). *Jurnal Teknologi Industri Pertanian*, 21(1), 1-8 (Id).
- Kementan (Kementerian Pertanian Republik Indonesia)** (Ministry of Agriculture) (2013). *Statistik Pertanian 2012 (Agricultural Statistics 2012)*, Pusat Data dan Sistem Informasi Pertanian. Jakarta: Kementan (Id).
- Maarif, M. S.** (2000). Revitalisasi Kelembagaan Agribisnis (Agribusiness institutional revitalization). *Agrimedia*, 4(3), 30-33 (Id).
- Ponte, S.** (2004). *Standards and sustainability in the coffee sector: A global value chain approach*. Manitoba (Canada): International Institute for Sustainable Development.
- Putri, M. A., Fariyanti, A., & Kusnadi, N.** (2013). Struktur dan integrasi pasar kopi arabika gayo di Kabupaten Aceh Tengah dan Bener Meriah. *Jurnal Tanaman Industri dan Penyegar*, 4(1), 47-54 (Id).
- Saaty, T. L.** (2008). Decision making with the analytic hierarchy process. *International Journal of Services Sciences*, 1(1), 83-98.
- Salima, R., Karim, A., & Sugianto, S.** (2012). Evaluasi Kriteria Kesesuaian Lahan Kopi Arabika Gayo 2 di Dataran Tinggi Gayo. *Jurnal Manajemen Sumberdaya Lahan*, 1(2), 194-206 (Id).
- Saputra, A.** (2012). *Desain Rantai Pasok Kopi Organik di Aceh Tengah untuk Optimalisasi Balancing Risk (A design of supply chain for organic coffee in Central Aceh to optimize the risk balancing)*. Master Thesis. Bogor: Institut Pertanian Bogor (Id).
- SCAA (Specialty Coffee Association of America)** (2005). *Trade show and convention in Seattle*.
- Silitonga, C. M.** (2008). *Analisis keunggulan bersaing kopi Arabika Gayo organik di Indonesia. (Competitive advantage analysis of Arabica Gayo coffee organic in Indonesia)*. Master Thesis. Medan: Universitas Terbuka (Id).
- Taylor, P. L.** (2005). In the market but not of it: Fair trade coffee and forest stewardship council certification as market-based social change. *World Development*, 33(1), 129-147.
- Toumache, R., & Rouaski, K.** (2016). Prospective analysis of the Algerian economic growth by 2025: Structural analysis. *Journal of Applied Business Research*, 32(3), 791-803.
- Walker, H.** (2015). *Coffee, Cooperatives & Compliance: A Case Study of Fair Trade in Aceh, Indonesia*. Master Thesis. School of Geography, Environment & Earth Science, Victoria University of Wellington.
- Wibowo, Y.** (2010). Analisis Prospektif Strategi Pengembangan Daya Saing Perusahaan Daerah Perkebunan (Prospective analysis of strategy of competitiveness development of plantation company). *Agrointek*, 4(2), 104-113 (Id).