An Alternative Model of Cocoa Production Institution: A Solution in Facing Asean Economic Community

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Abstract: *There is an indication that cocoa production institution is not working well as farmers' expectations. The lack of coordination among institutions cause cocoa institutions are not institutionalized. The study are expected to: (1) construct the institutional model for enhancing competitiveness of cocoa exports in facing Asean Economic Community, (2) formulate a coordination model among institutions of cocoa production in accelerating Indonesian economic development. ISM analysis results show that: first, there are 11 institutions that should be more pro-active in improving cocoa production, namely: (1) Indonesian Coffee and Cocoa Research Institute (ICCRI), (2) Gardens Management Coordination Forum (FKMK), (3) Indonesian Cocoa Association (ASKINDO), (4) Indonesian Cocoa Farmers Association (APKI), (5) Indonesian Cocoa Industry Association (AIKI), (6) Provincial Office for Plantation, (7) Financial Institutions/Banks, (8) Marketing Agencies, (9) Local Office for Forestry and Plantation, (10) Extension Service Officer in District level, and (11) Joined Farmers Group (Gapoktan). Second, through the formulation of structural model of coordination in the institutional production of cocoa in the acceleration of economic development, it was revealed that the main causal of the coordination function weakness are (1) the weak of institutional training, and (2) the impact of regional autonomy policy, implies that an alternative model of cocoa production should focus on improving institutional training and reducing negative impact of regional autonomy.*

Keywords: *Cocoa; institution; Asean Economic Community*

1. Introduction

Although the rapid expansion of Indonesian cocoa production has been mainly contributed by smallholders (92.64% in 2005), the proportion ofsmallholders whose income is below the poverty line is cyclical. Firstly, the smallholders are originally poor. Secondly, the smallholders were moving out of poverty then fell back into poverty, causing low purchasing power. In addition, some crucial issues strongly associated with poverty reduction among smallholder remain unsolved. These include; (1) the challenge to improve the incomes of smallholders through

agricultural and non-agricultural economic activities, which still remains a major barrier to raising income in the country; (2) the average size of agricultural land as a constraint to increase farm production; (3) the smallholders suffer from unavailability of farm credit. As a result, they do not have options to finance production or daily life needs, except for lending capital input (money) from the brokers who are mostly called *tengkulak* (Arsyad and Kawamura, 2010), impacting purchasing power severity.

Discussion about Indonesia's position in world cocoa trade has boomed since the last 20 years. Since then the agricultural economist increasingly outspoken that Indonesia succeed to show its flag as positioned three of world cocoa producers. Nonetheless Indonesia does not have strong competitiveness. In 2009-2011 Indonesia experienced negative growth in cocoa exports. This is due to the composition of Indonesian cocoa products are less follow the needs of the market (Ririn, 2013). Another interesting issue is that, criteria to evaluate cocoa performance is continuity of cocoa beens supply, bean quality, responsiveness, cost efficiency and cocoa farming management (Yasin, *et al*., 2015).

Facing on the onslaught of economic policy of Asean countries (Asean Economic Community), Indonesia encounter a greater challenge based on the similarity of its products of agriculture and plantation. The similarity in the main export products have an impact on the decreasing value of Indonesian exports that reached in the range of 20-25%. One of the reasons are caused by the poor quality of the product itself. Based on it, strategies that should be implemented is the enhancement in the quantity and quality of export products as a source of foreign exchange. A phenomenon which is quite interesting that in 2001-2005, more than 90% total cocoa production of Indonesia supplied by poor subsistence smallholderss. The rest approximately 3.0% supplied by government agencies (PTPN), and approximately 4.0% by private estates. This indicates that the contribution of smallholders to the Indonesian cocoa production is outstanding and deserves a thumbs up. Indonesia was succeed to bring its flag as the largest country's in cocoa farmers plant in the world with a production value reached 1.3158 million tons / year. Therefore, Indonesia got the third ranked in the world after Ivory Coast and Ghana.

Cocoa consistenly became a source of foreign exchange in 2006, reached US $ 855 million, a very important contribution in the structure of the Indonesian economy. In addition, cocoa plantation as a sub-sector is the leading sector in employment nationwide, reaching approximately 400 thousand farm households. On the side of trade between countries, almost all of Indonesia's cocoa products are used to meet export market (up 80.64%) and continues to experience growth of around 15% over the last twenty years to the major importing countries such as the United States and the Netherlands.The Centre for Analysis of Socio-Economic and Agricultural Policy said that in theory of international trade, trade between countries with unhindered opportunity gives benefit for each country through the production of commodities which been seeded by each of the country. But in reality, with the fair of econ-

omy does not automatically create the prosperity of the countries that get involved. In the latest development, many countries tried to find an alternative way as the trade liberalization through the Free Trade Zone (CPB). Until October 2004, has registered 300 limited trade area (preferential trade area) or the Free Trade Agreement of the whole world.

In situations like this, Indonesia is really need information and data that can be used as a reference in planning and decision making as well as the anticipation in facing the Free Trade Limited through the Asean Economic Community, especially if the production sector has not had a competitive advantage, including small farmers cocoa in Indonesia. The recent phenomenon shows that large number of cocoa farmers are replacing cocoa, crops with other crops (short term), because of insufficient income from cocoa as annual crops for subsistence. This indicates that the insufficiency or poverty can have an impact on the structure of production indicating an urgent issue to be addressed, the poverty alleviation of cocoa farmers, as the spearhead of the national cocoa production and export to the world market.

The evidence indicates that in Indonesia's cocoa production centers (especially in the province of South Sulawesi and West Sulawesi), farmers do not feel protected by the rules and policies of government agencies and other private institutions. This indicates that institutional support in cocoa production is not going well as the farmers expectation. This means that there are many agencies but not institutionalized as it should. The institutionalized of cocoa institutions can be shown at once as a result of the lack of coordination between sectors.The program that been launched by both government agencies and private institutions are not strategic in developing the economy and the dignity of cocoa farmers.

In facts, many institutions are not institutionalized (Arsyad *et al*., 2013). This becomes a principal reason to identify the role of institutions in strengthening institutional of cocoa smallholders as a puzzling current issue. The issue is also examined by Nuddin (2007) in his research on watersheet institutional that, the main cause of poor performance of the coordination functions between agencies is a very weak cooperation commitment of government official in the region and agency coordination ambiguity. Empirical results conducted by Jari & Fraser (2009) in South Africa persuasively show that, market information, expertise on grades and standards, contractual agreements, social capital, market infrastructure, group participation and tradition significantly influence household marketing behavior.

In addition, a research conducted by Chibanda, Ortmann and Lyne (2009) revealed an interesting result. It centers the impact of institutional and governance factors on the performance of 10 smallholders agricultural cooperatives. They persuasively show that, the performance of the selected smallholder cooperatives is influenced by institutional and governance problems. Institutional problems give rise to low levels of equity and debt capital, reliance on government funding, low levels of investment, and subsequent loss of members. Governance problems are strongly linked to the absence of secret ballot, low levels of education, lack

of production and management skills training, weak marketing arrangements and consequent low returns to members as patrons or investors. It is also facts that with many reasons, education system is not currently supporting the development of agriculture industry (Alam *et al.*, 2009).

In line with findings of Rahmadanih *et al*. (2015) that the alternative model of Women Farmers Group include (1) model of institutional support (assistance, facilities, promotion and learning process) and (2) model of human resources capacity of group members include: appropriate training and development of leadership potency to increase capability in recognizing and solving problems of food diversification. These imply that agricultural institutional is very important to address.

Based on the issue above, this study is expected to: (1) construct the institutional model that is expected to enhance the competitiveness of commodity exports of cocoa and competitive in facing Asean Economic Community, (2) formulate a model of institutional coordinated relationship in cocoa production in accelerating of economic development in Indonesia.

2. Materials and Method

2.1 Data Collection

It is necessary to have two blocks data: (1) secondary data to support function and role of institutions, (2) primary data (qualitative), as presented in Table 1 to support coordination function strengthening by interviewing the experts. Stages of data collection activities carried out as follows:

Table 1. Primary Data Needed

Nu	Data	Data Characteristic	Data Function	Data Sources
1	Information about function and the role of institutions	The order of institutions by position: independent, linkage, dependent, autonomous	To construt institutional model of cocoa smallholders	Interview with respondent
2	Information about the causal of coordination function weakness	Level of coordination function by position: independent, linkage, dependent, autonomous	To identify the correlation model of institutions for smallholders development	Interview with respondent

Table 2. The Number of Questions Each Element by Data Characteristics

Element*)	Number of Sub-element	Number of Question	Data Characteristics
A	33	528	The function and role of institutions stregthening
B	16	120	The weak of coordination function

**A is an element (variable) of institutions actors and B is an element of the weakness of coordination function.*

2.1.1 Determining elements and sub-elements

There are two elements used in the analysis; (i) functional and role of institutions strengthenings, (ii) coordination function strengthening. Each element is derived into sub-elements by considering: (1) research objectives, (2) analytical models, and (3) the results of experts/practitioners consultation, including officials relating to the institutional organization of cocoa smallholders. To identify the function and role of institutions and coordination function strengthening required by position of respective interests, the analysis involves 33 sub-elements of institutions, and 16 sub-elements of coordination function (see Figures 2 and Figure 3).

2.1.2 Preparing questionnaire

The questionnaire used in the research consists of two series (A and B), which is based on the research objectives. The number of questions in the questionnaire as follows; (i) Series A has 528 questions, and series B has 120 questions (Table 2).

2.1.3 Sampling

The research employed an expert system approach (Eriyatno, 1999) using a survey method by purposive sampling technique with the provisions of representing personnel in the fields/institutions respectively. The number of experts/practitioners in the sample was 18 people who have a high level of understanding, controlling, and/or directly involved in the field of cocoa plantations task. The 18 individuals sample was distributed, 9 people in Sidrap District (West Sulawesi) and 9 people in Polman District (West Sulawesi).

2.2 Data Processing and Analysis Method

The research used an Interpretative Structural Modeling (ISM) in analyzing data/ information on both (1) the function and role of institutions, and (2) coordination function strengthening. There are four subsequence step undertaken in the analysis (see Figure 1) as follows; (i) constructing a Structural Self-Interaction Matrix (SSIM) by using a questioinnaire tabulation, (ii) arrange a table of Reachability Matrix, by replacing the symbols V, A, X, O in the questionnaire with numbers 1 and 0, (iii) Compiling a Matrix Activator Dependence (DPD), consists of four quadrants as presented in Figure 2 and Figure 3, (iv) constructing a Structural Model of each element. Based on the Matrix Activator Dependence (Figures 2 and Figure 3), it can be specified the interest of each sub-element, through four positions; (i) Autonomous Position, indicating the sub-element that is not related to the development program of smallholders, (ii) Dependent Position, indicating the sub-element that has a low contribution in development program and depends on the other sub-elements. Therefore, a sub-element in this position is not so important in relation to the program, (iii) Linkage Position indicating the sub-element that is very important and should be studied carefully, because their relationship to the other sub-elements is unstable. Any action on a sub-element will send an impact on this sub-element, and its feedback effects can enlarge and/or create impact and/or new problems. In other words, every

action in the sub-elements (linkage position) will result in success, whereas lack of attention to the sub-elements will lead to failure, (iv) Independent Position, indicating that the sub-element in this quadrant is independent variable, that have a high driving force (activator), however, having a low dependency on the other sub-elements.

3. Results and Discussion

3.1 Alternatif Institution in Improving Cocoa Production

ISM analysis results show that, of the 33 sub-elements (institutions) in the analysis, 22 sub-elements are institutions that can be expected to play an important role in strengthening cocoa production in the future. Three out of 22 institutions, have a high activator in developing smallholders program (*DP*>1.00), and these institutions have a low dependency on the other institutions (*D*=0.36 on average*)* (see Table 3).

Furthermore. there are 11 institutions have both activator and dependency on strengthening institutional of smallholders. Table 3 also shows that among the 11 institutions, there are three of them that act as key institutions. ISM results show that 33 sub-elements were distributed on 3 sectors/position, namely independent (3 institutions), linkage (19 institutions) and dependent (11 institutions). The position of each elements indicate activator priority in order to strengthen cocoa production. It is important to note that of 11 institutions can be categorized as institutions that have a weak activator in improving cocoa production (*DP*=0.19 on average), although they have a high dependent position (*D*= 075) as shown in Table 3.

3.1.1 Institutions in independent position

The results of the analysis of Interpretative Structural Modeling (ISM) showed three institutions are in a independent position as listed in Table 4.3 and Figure 4.5, namely: (1) Agency for Agricultural Extension / Plantation Field, (2) Farmers Group / Farmers Group Association (union), and (3) the Department of Forestry. The three institutions have a high power driver, (average DP = 1.00). Therefore the results of the ISM analysis identifies that all three are the key institution in the institutional production of cocoa, especially in terms of increased production of cocoa farmers to reduce poverty in Indonesia. For example, as Ekasari (2013) stated that stepping up of agricultural extension (based on social learning process) which becomes a push factor towards independency group in finding new innovation.

3.1.2 Institutions in linkage position

Linkage position indicates that the sub-elements incorporated in it, is an institution with a strong driving force (activator), although it is also very dependent on the other institutions, as indicated by the average value DP and D respectively ≥ 0.50) , It means that the institutions in this position while having huge influence on cocoa production development program, was also affected by other agencies. These institutions besides having a great thrust towards increased production, is also likely to be influenced by factors that could hinder the program. It is therefore necessary institutional system through careful planning, because the effect of the unexpected feedback may cause the failure of the program, or create new problems. Among all 19

Table 3. Position and Weight of Cocoa Production Institutions.

Position	Sub-element	Weight	
		DP	D
Independent	Local Office for Estate Extension	1,00*	0,30
	Joined Farmers Group (*Gapoktan*)	1,00*	0,30
	Local Office for Forestry and Estate	1,00*	0,48
	Average	1,00	0,36
Linkage	Gardens Management Coordination Forum (FKMK)	1,00*	0,55
	Provincial Office for Estate (*Hutbun*)	1,00*	0,58
	Marketing Institutions/Cocoa Farmers Cooperative (KPK)	1,00*	0,58
	Indonesian Cocoa Industry Association (AIKI)	1,00*	0,61
	Indonesian Coffee and Cocoa Research Institute (ICCRI)	1,00*	0,67
	Financial Institutions/Bank	1,00*	0,67
	Indonesian Cocoa Association (Askindo)	1,00*	0,69
	Indonesian Cocoa Farmers Association (APKI)	1,00*	0,73
	Local Office for Industrial and Trade (*Perindag*)	0,97	0.61
	Research Institute/University	0,97	0.69
	Center for Nasional Estate Research	0,94	0,61
	Indonesian Cocoa Committee	0,94	0,67
	Provincial Office for Industrial and Trade	0,91	0,64
	Provincial Office for Cooperative /SMEs	0,88	0,67
	Local/District Office for Cooperative/SMEs	0,88	0,67
	Ministry of Agriculture/Directorate General of Estate	0,88	0,73
	Ministry of Industrial and Trade	0,69	0,69
	Ministry of Cooperative/SMEs	0,61	0,73
	International Cocoa Organization (ICCO)	0,61	0,73
	Average	0,91	0,66
Dependent	Local Office for Reg. Dev. Planning Board (*Bappeda*)	0,39	0,76
	Local Office for Transportation Services (*Perhubungan*)	0,30	0,76
	Local Office for Agricultur Services (*Pertanian*)	0,27	0,67
	Provincial Office for Development Planning Board	0,27	0,73
	Provincial Office for Agriculture Services	0,18	0,69
	National Development Planning Board (*Bappenas*)	0,18	0,79
	Ministry of Transportation Services	0,03	0,73
	Provincial Office for Forestry	0,03	0,73
	Provincial Office for Transportation Services	0,03	0,76
	Ministry of Environment	0,03	0,82
	Ministry of Forestry	0,03	0,85
	Average	0,19	0,75
Autonomous	-	-	-
	Average	-	-

institutions, eight of it are key institutions, namely: (1) The Coordination Forum Management Gardens (FKMK), (2) Department of Plantation Province, (3) Institute of Marketing / Cooperative Planters Cocoa (KPK), (4) Indonesian Cocoa Industry Association (AIKI), (5) Coffee and Cocoa Research Center Indonesia, (6) Financial Institutions / Banks, (7) the Indonesian Cocoa Association (ASKINDO, and (8) of the Indonesian Cocoa Farmers Association (APKI).

3.1.3 Institutions in dependent position

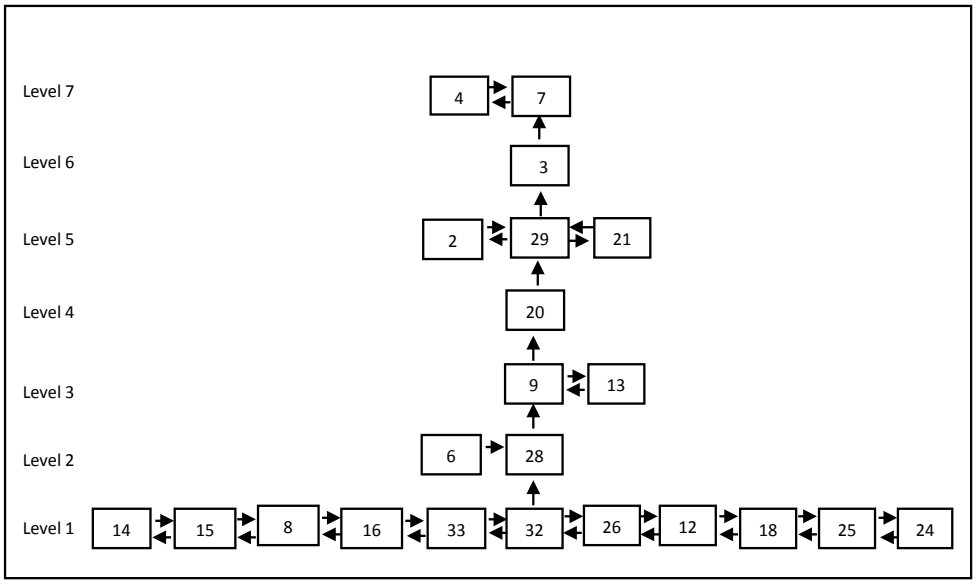
Dependent position indicates that the sub-elements incorporated in it has a weak driving force (power driver),with (average DP <0.50), and a large dependent (D average ≥ 0.50). This indicates the sub-elements

which incorporated in this position have a weak driving power / the influence is very weak against the strengthening of cocoa production, but otherwise has a large dependence on other sub-elements. It means that there are institutions in this position are very dependent on other institutions. Therefore the contributions of these institutions do not need to be prioritized in terms of increasing cocoa production. The role of these institutions will take care of itself, after other sub-elements in both independent position, and linkage running optimally.

3.1.4 Institutional structure model of cocoa production

ISM analysis results, as described in this paper indicate from the 33 sub-elements

Figure 1. Structural Model of Institutions Relationship of Cocoa Production



Notes:
2 = Ministry of Agriculture / Director General of plantation
3 = Ministry of Commerce
4 = Ministry of Cooperatives / SMEs
8 = Center for Coffee & Cocoa Research
9 = Center for Estate Research
6 = Research Institute
7 = ICCO
12 = FKMK
13 = Indonesian Cocoa Board
14 = the Indonesian Cocoa Association
15 = Cocoa Farmers Association Ind. (APKI)
16 = Cocoa Industry Association Ind. (AIKI)
18 = Office of the Provincial Estates
20 = Department of Industry and Trade
21 = Office of Cooperative / SME Province
24 = Financial Institutions / Banks
25 = Institute of Marketing / Commission
26 = Local District office for Forestry and Estate
28 = Department of Industry District
29 = Local District office for Cooperative/Small and Medium Enterprises
32 = Local Extension for District Plantation Field
33 = Joined Farmers Group

that been analyzed, based on the weight of Activator-Dependent (DP-D), there are 23 sub-element as an characterization institution with institutional priority in cocoa production. All 23 institutions are shown in the form of cocoa production model of institutional structure as shown in Figure 1.

The greatest power (DP = 1), as described above are institutions key actors. Institutions at this level are respectively: Coffee and Cocoa Research Center Indonesia (8), Institute of Research. Plantation Indonesia (9), Institute Coordination Forum Management Gardens (FKMK) (12), the Association of Indonesian Cocoa (ASKINDO) (14), Association of Cocoa Farmers Indonesia (APKI) (16), Association of Indonesian Cocoa Industry (AIKI) (16), Plantation Office of the Provincial (18), Financial Institutions / Banking (24), the Institute of Marketing / Cooperative Plantation (KPK) (25), Department of Forestry and Plantation District (26), Extension Field Plantation District (32), and farmer groups / Gapoktan (33). Institutions that became key actors are dominated by private institutions on central level, except the farmer groups / Gapoktan. Furthermore, two of whom are government agencies of provincial and district levels; Provincial Forestry Office and District Forestry Office.

3.2 Coordination Function of Cocoa Institutional Development

It is important to note that results of previous studies (Arsyad *et al*., 2013) indicates the function of institutional coordination in the cocoa is very weak, so it impact on production and the income of cocoa farmers. ISM approach were analyzed 16 sub-elements to construct the linkage of the sub-element model as the reason of the weakness in institutional coordination function at cocoa production. The results show that, from the 16 sub-elements that been analyzed, there were 10 sub-element of variable position as the cause of weak coordination function. The 10 sub-elements are distributed in the top five independent, and others on the position in linkage.

3.2.1 Sub-element in independent position

Sub-elements in this position is a variable that has a big driving force (influence) against the weak coordination function, despitefully the dependence on other sub-element is weak. Differences in position and magnitude in the effect of the weak coordination functions indicated by the Activator value (average DP = 0.89) as shown in Table 4 and Figure 2. The results showed that there are five sub-elements were in the position of (independent) are: (1) Lack of institution building, (2) Impact of regional autonomy policy, (3) the proliferation of attitudes sektoralisentris, (4) Lack of commitment to the vision and mission, and (5) The existence of a conflict between institutions. Therefore necessary interventions to neutralize the influence of the five sub-elements.

Based on the weights, sub-elements of weak institutional development and impact of regional autonomy policy is a key variable that is most influential in weakening the institutional coordination function cocoa production (DP = 1.00) (Table 4 and Figure 2). The results showed a low weight of

Table 4. Comparison of the weight and position of institutional weakness functions of coordination in the production of cocoa in Indonesia

Position	Sub-element	Quality	
		DP	*D*
Independent	Weakness of development institutional	1,00	0,25
	Impact of regional autonomy	1,00	0,44
	Ego-sectoral	0,94	0,44
	Weak commitment to the vision and mission	0,94	0,50
	Conflicts between institutions	0,56	0,50
	Average	0,89	0,43
Linkage	The multifunctional type of sectors	0,87	0,56
	Lack of control / supervision	0,75	0,56
	Weak support incentives	0,75	0,63
	Weak organizing function	0,69	0,63
	The weak role of the International Cocoa Organization (ICCO)	0,63	1,00
	Average	0,74	0,68
Dependent	The weak role of the Indonesian Cocoa Association (ASKINDO)	0,25	0,75
	Exclusion from institutions in planning	0,44	0,75
	The policy of cocoa that is top-down	0,37	0,87
	The weak role of the Indonesian Cocoa Board	0,31	0,75
	The weak role of the Indonesian Cocoa Industry Association (AIKI)	0,50	0,81
	Powerlessness Gardens Management Coordination Forum (FKMK)	0,25	0,75
	Average	0,35	0,78
Autonomous	-	-	-
	Average	-	-

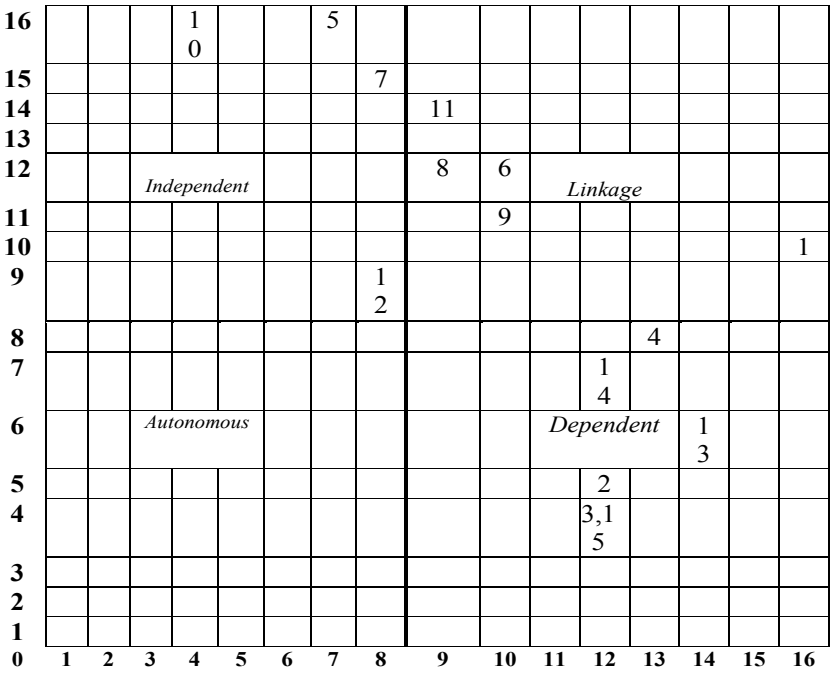
Dependent (D-Average = 0.43). This means that all two sub-elements are not depend on other sub-elements, so that the effect as the cause of weak coordination function will not end if we only rely on the influence of other sub-elements only.

3.2.2 Sub-element in linkage position

Linkage position indicates that the sub-elements that corporated in it have a powerful driving force (activator), in addition it also has a large dependence on other sub-elements as shown by the average value DP and D respectively ≥ 0.50) (see Table 4). The five sub-element at this position beside having a great influence in weakening the coordination function. Because of the variable in position (linkage) should be anticipated with caution through a solid management. The fifth sub-elements in this position (linkage) are: (1) the nature of the multi-sector, (2) lack of control / supervision, (3) lack of incentive support, (4) the weakness of organizing functions, and (5) the weak role of the ICCO.

Among the five variables, four variables are highly dependent on the variable in position independent, namely: (1) The nature of the multi-functional / sector, (2) lack of control / supervision, (3) the weak incentives support, and (4) weak organizing function. To these four variables depend on variables

Figure 2. Diagram of Activator-Dependence (DP-D) caused the weak institutional coordination function in Cocoa Production



Note:
1=Weak role of Internatonal Cocoa Organization (ICCO)
2=Weak role of the Indonesian Cocoa Board
3=The weak role of the Indonesian Cocoa Association (ASKINDO)
4=The weak role of the Indonesian Cocoa Industry Association (AIKI)
5=The impact of regional autonomy policy
6=Weak of support incentives
7=Weak commitment to the vision and mission
8=Lack of control / supervision
9=Weak of organizing function
10= Weak of institutional training
11=Multifunctional sector
12=Conflits between institutions
13=Top-down policy on cocoa
14= Exclusion of institutions in planning
15= Powerlessness of Gardens Management Coordination Forum (FKMK)
16=Ego-sectoral among institutions

(1) the regional autonomy policy, (2) weak institutional development, (3) a commitment to the vision and mission, and so forth. Because it is well positioned independent sub-elements, as well as linkage should be run consistently.

3.2.3 Sub-element in dependent position

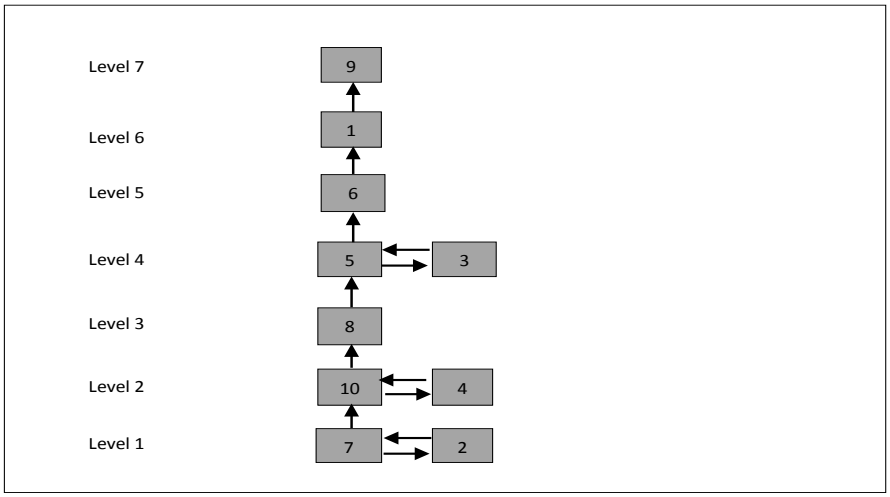
In addition to sub-elements as stated earlier, there are six sub-other elements: (1) Weak role of Association of Indonesian Cocoa Industry (AIKI), (2) exclusion from institutions in planning, (3) The policy of the cocoa that is both top-down, (4) Weak role of Indonesian Cocoa Board, (5) Weak role of the Indonesian Cocoa Association (ASKINDO), and (6) Powerlessness Gardens Management Coordination Forum (FKMK), is positioned dependent. ISM analysis results indicate that the six sub-elements do not show a significant power driver as the cause of the weakness of the coordination function.

Kenam sub-elements (see Table 4) showed an average weight of DP = 0.35 and D = 0.78. DP indication of the average weight of <0.50 and D > 50 is that the sub-element does not have a significant influence to the weak institutional coordination function in cocoa production. In addition to the six sub-elements are highly dependent on other variables. Therefore to six of these variables do not require priority attention to strengthening the institutional coordination function for developing cocoa production.

3.3 Structural Model of Weakness Coordination Function

Model Linkage structure and the influence of each sub-element on the weak institutional coordination function in cocoa production can be identified as in Figure 3. Figure 3 shows the position / order of magnitude of the effect of each sub-element in weakening the coordination function. Sub-sub-elements in level 1, such as; (1) weak institutional development, and for (2) the impact of regional autonomy policy are the main cause of the weakness of the coordination function in cocoa production. Due to a weak of institutional guidance and unpreparedness of Regional Work Component Unit (SKPD) access to the regional autonomy policy, which is adversely affects the institutional development including economic development of cocoa in the region. Therefore, to strengthen institutional coordination functions in cocoa production, institutional development efforts should be made. This institution building in turn will reduce the negative impact of regional autonomy policy.

Figure 3. Model structure sub-element linkages affect the weakening function at institutional coordination in the production of cocoa.



Note:
1=The weak role of the International Cocoa Organization (ICCO)
2=The impact of regional autonomy policy
3=Weak support incentives
4=Weak commitment to the vision and mission
5=Weak control / supervision
6=Weak organizing function
7=Weak institutional development
8=The nature of multi-functional / sector between institutions
9=Conflicts between institutions
10= Ego-sectoral among institutions

Two other variables as the cause of weak coordination functions at the second level are (1) the proliferation ego-sectoral attitude, and (2) lack of commitment to the vision and mission. Both variables has a functional relationship with both variables at key level as suggested earlier as negative impact of regional autonomy policy. Similarly, lack of commitment to the vision and mission are the result of the weakness of institutional development. The vision and mission should not be regarded as a slogan and motto only. Further successively followed in level three, four, and five, are variables of multi-function/multi-sector and two variables at level four, such as (1) the lack of controlling/supervision, and (2) weak incentive support, as well as variable weakness of functions organizing at level five. The fourth variable is highly dependent on other variables, meaning that beside it contributing to the weak coordination function, it also strongly influenced by other variables.

Two other variables at level six and seven, respectively is the weak role of the ICCO, and conflicts between institutions. Although the effects of these two variables are smaller than the other variables, but in an effort to strengthen institutional coordination function in cocoa production, they still need attention. ICCO's role is needed in terms of institutional development of cocoa production in anticipation of the free market, including trade policies ASEAN countries (ASEAN Economic Community).

4. Conclusion

It was found that the institutional model that is expected to enhance the competitiveness of commodity exports of cocoa to encounter the Asean Economic Community as follows: First, through models of institutional, cocoa production is expected to increase in exports, it was revealed that there were 11 institutions that should contribute as key actors in the development of cocoa production, such as : (1) Research Centre Coffee & Cocoa Indonesia, (2) Forums Coordination Management Gardens (FKMK), (3) Association of Indonesian Cocoa (ASKINDO), (4) Association Cocoa Farmers Indonesia (APKI), (5) Association of Indonesian Cocoa Industry (AIKI), (6) Plantation Office of the Province, (7) Institute Finance/ Banking, (8) Marketing Agencies/Commission, (9) the Forestry and Plantation District, (10) Extension Field Plantation District, and (11) Farmers Group/Gapoktan. The eleven sub- element is more pro-active in the production of cocoa institutional frame that can design policies that can protect cocoa farmers. Secondly, through the formulation of the relationship model of coordination in the institutional production of cocoa in the acceleration of economic development, it was revealed that there are ten sub-elements that cause weak coordination function within institutional cocoa production, namely: (1) weak institution building, (2) the impact of autonomy area, (3) the proliferation of ego-sectoral, (4) lack of commitment to the vision and mission, (5) the existence of a conflict between institutions, (6) the nature of the multi-sectors, (7) the weak control/ supervision, (8) the weak support incentives, (9), weak organizing functions, and (10) the weak role of the ICCO. Of the 10 sub-elements, two of which are key causes

are: weak of institutional development and the impact of regional autonomy, implies that an alternative model of cocoa production should focus on improving institutional training and reducing negative impact of regional autonomy.

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