STRENGTHENING INSTITUTIONAL TOWARDS SMALLHOLDERS WELFARE : Evidence from Existing Condition of Cocoa Smallholders in Sulawesi, Indonesia[1)]

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Abstract

This paper deals with institutional development of cocoa smallholders. As widely known that Indonesia is the third largest cocoa producer in the world, of which about 90% of total production is obtained from smallholders. Poverty trap for cocoa smallholders is a result of : (i) the low quality of human resources, (ii) lack of agricultural assets, (iii) lack of access to social facilities, information and communication, and (iv) lack of income gained in economic activity. All this cannot be separated from the weak role and inter-agency coordination, indicating the weak of smallholders institutional. By employing an Interpretative Structural Modeling (ISM), the research objectives are ; (i) identifying the role of institutions in institutional of cocoa smallholders, (ii) assessing the interest of education and training materials in smallholder development. The central point of ISM results show that, (i) Local Office for Forestry and Estate (*Hutbun*), (ii) Local Field Extension Officer for Plantation (PPL), and (iii) Marketing Institutions are the key institution actors in strengthening institutional of cocoa smallholders. This leads us to argue that maximizing the role of *Hutbun,* PPL, and Marketing Institutions could help smallholder institutional development, improving welfare in other words. Similarly, the role of education and training is also needed in helping smallholders. ISM results persuasively revealed that, the materials of (i) post-harvest management, (ii) marketing, and (iii)

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the provision of agriculture inputs are the key elements. A major implication of this finding is that, introducing intensively materials of post-harvest management & fermentation, agriculture input provision, and marketing aspects in educating and training the smallholders, could become a potential route to strengthen institutional towards cocoa smallholders welfare in the country.

1. Current Issue and Objectives

Although the rapid expansion of Indonesian cocoa production has been mainly contributed by smallholders, the proportion of smallholders 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 (Arsyad & Kawamura, 2009) impacting poverty severity. In other words, it is very difficult to dream how to increase smallholder welfare without having political will to break out their poverty trap. At the same time, a remaining crucial issue deals with cocoa smallholders welfare is exacerbated by a very weak farming institutional. This is not without clear arguments. Poverty trap of cocoa smallholders is a result of: (i) the low quality of human resources, (ii) lack of agricultural assets, (iii) lack of access to social facilities, information and communication, and (iv) lack of income gained in economic activity. All this cannot be, however, separated from the weak role and inter-agency coordination creating ego-sector, horizontal and vertical conflicts among institutions, indicating the weak of smallholders institutional. Libecap (2011) gave an important example in agriculture, that the irrigation expansion required investment in infrastructure for capturing, storing, and delivering water, facilitated by institutional adaptation through new water rights and new water supply organizations. Even in theoretical ways, Beckert (1999) identified that, one of the persistent problems facing institutional organization theory has been the question of how to deal with interest-driven behaviour and institutional change. If organizational structures and strategies are shaped by institutional environments, what is the role of 'strategic choice' in the management of organizations? Therefore, there is no doubt as Parada, Nordqvist & Gimeno (2010) depicted that institutional champion bridges the gap between micro-level change [as their case, at the firm level] and the professional association's macro-level discourse.

In facts, many institutions are not institutionalized. 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.

The next important factor in identifying poverty (welfare, in other words) is access to information for the poor. The study conducted by the CRIEC-World Bank (2002) in Indonesia reveals the importance of information availability. It was found that 30% of the households surveyed receive an income just sufficient for food requirements. The poor are usually farmers who lack assets, both land and equipment as well as information (market, technology, capital and business opportunity). The World Bank classified the main factor that determines the gap between the poor and the rich, namely access to information. This is one finding. Another interesting finding is from Kawamura's study (2002) on the causal factor of poverty in South Sulawesi, Indonesia, by using an index "Transportation and Communication". He found that "Radio Communication Access" has no statistically significant path coefficient (β weight) in relation to the "Lowest Income Level" as a poverty proxy in his study, meaning there is no direct impact on poverty. However, "Radio Communication Access" shows a significant β weight in relation to the "Dependency on Agriculture" as one of the intermediate variables in his work. Thus, "Radio Communication Access" will eventually have an indirect impact on "Lowest Income Level" or poverty through the variable "Dependency on Agriculture". The two studies above lead us to clearly state how important information accessibility is (Arsyad & Kawamura, 2009 ; 2010) in bridging smallholder institutional towards their welfare or real income increasing in the future. However, it is also important to emphasize that, the direction and level of changes in real incomes brought about by structural adjustment are determined by a variety of factors, including sources of income (Sahn & Sarris, 1999) both agriculture and non-agricultural economic activities as crucial dimension in improving smallholder social life.

Another crucial thing in identifying a possible path to strengthen institutional of smallholders is educating smallholders to have good skill and marketing aspect as well. Therefore, a linkage between smallholders and training for technical aspect of farm management as well as marketing cannot be neglected in the country. A study conducted by Chibanda, Ortmann & 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). Therefore, on the job training by providers could become essential way to lead smallholders have good skill in agriculture, provision strategy of input and marketing aspects in rural agriculture. Given the current situation, a weakness of smallholder institutional, less education and important training materials for smallholders becomes serious issue in developing countries as revealed by some studies above, in which Indonesia is no exception. Therefore, it is really necessary to construct the research on institutional smallholders as a current interesting issue in improving smallholder welfare in the country. Two specific purposes of the paper are ; (i) identifying the role of institutions in institutional of cocoa smallholders, (ii) assessing the interest of education and training materials in smallholder development.

2. Methodology

2.1. Data Collection

To achieve the objectives, it is necessary to have primary data, as presented in **Table 1.** Stages of data collection activities carried out as follows :

(i) Determining Elements and Sub-elements

There are two elements used in the analysis ; (i) institutions actor in strengthening institutional of cocoa smallholders, (ii) education and training materials are needed to develop smallholders. 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 role of institutions and training materials required by position of respective interests, the analysis involves 20 sub-elements of institutions, and 14 sub-elements of training materials (see **Figures 2** and **Figure 3**).

(ii) Preparing Questionnaire

The questionnaire used in the research consists of two series (A and B), which is

Table 1. Primary Data Needed

Nu	Data	Data Characteristic	Data Function	Data Sources
1	Information about institutions in strengthening institutional of cocoa smallholders	Institutions as actors in strengthening institutional of cocoa smallholders, according to the position : —independent —linkage —dependent —autonomous	To identify and determine the role of institutions in strengthening institutional cocoa smallholders	Interview with respondent
2	Information about the position / level of interest of education and training materials for developing smallholders	Level of interest of education and training materials for cocoa smallholder development, according to the position : —independent —linkage —dependent —autonomous	To identify and determine the interest of education and training materials 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	20	190	Institutions actors in strengthening institutional of cocoa smallholders
B	14	105	Training materials needed in developing cocoa smallholders

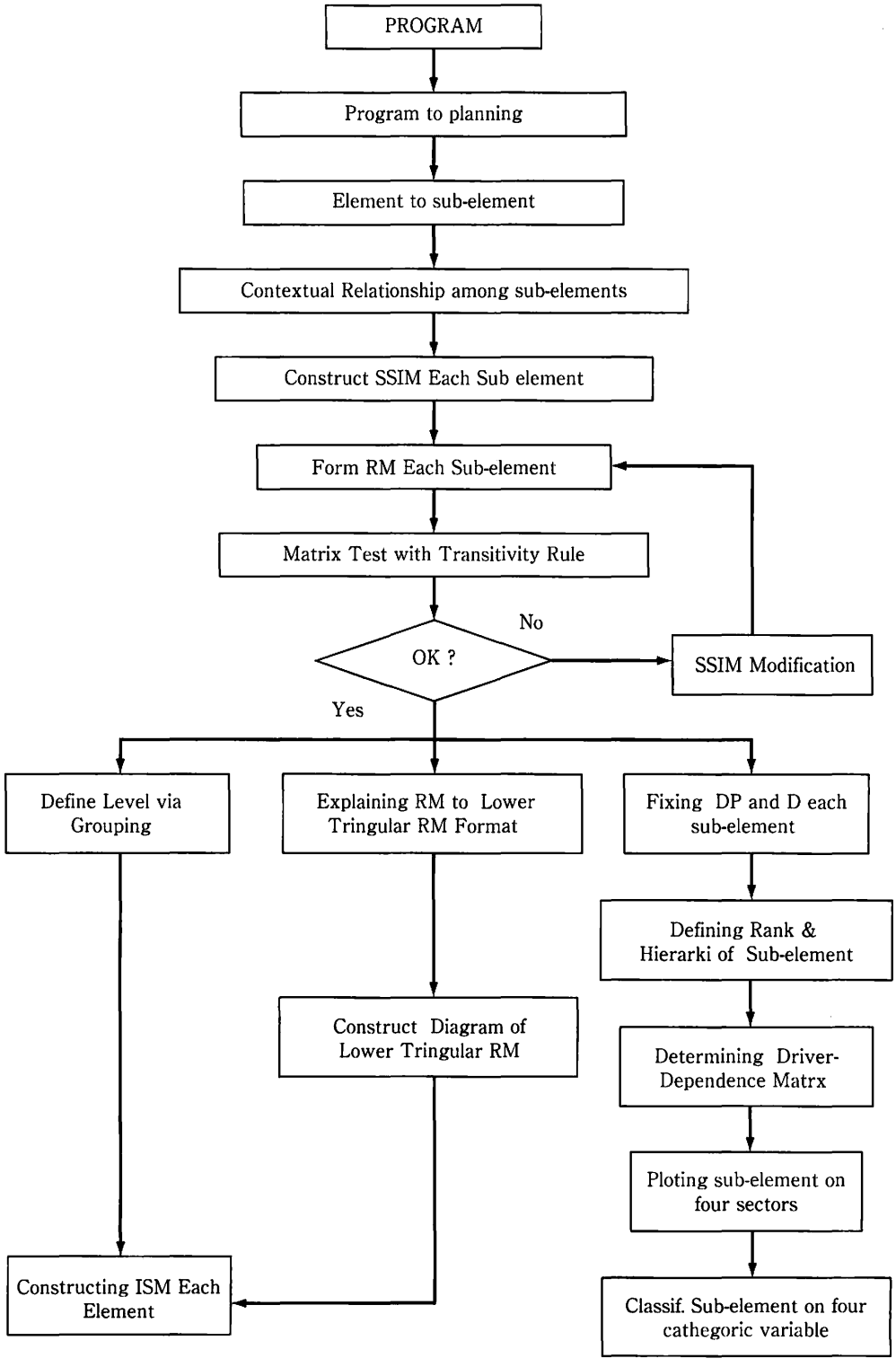
* A is an element (variable) of institutions actors and B is an element of education and training materials for cocoa smallholders development.

based on the research objectives. The number of questions in the questionnaire as follows ; (i) Series A has 190 questions, and series B has 105 questions (**Table 2**).

(iii) 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).

Figure 1. Flowchart of Interpretative Structural Modeling



Source : Eriyatno (1999).

2.2. Data Processing and Analysis Method

The research used an Interpretative Structural Modeling (ISM) in analyzing data/ information on both (1) the role of institutions, and (2) training material interests in strengthening institutional of cocoa smallholders. There are four subsequent 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 Driver Power 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 Driver Power 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 (driver power), however, having a low dependency on the other sub-elements.

3. Results and Discussion

3.1. The Role of Institutions in Strengthening Smallholders

ISM analysis results show that, of the 20 sub-elements (institutions) in the analysis, 15 sub-elements are institutions that play an important role in strengthening institutional of cocoa smallholders. Three out of 15 institutions, have a high driver power in developing smallholders program (DP>0.50), and these institutions have a low dependency on the other institutions (D≥50) (see **Table 3**). Furthermore, there are 12 institutions have both driver power and dependency on strengthening institutional of smallholders. **Table 3** also shows that among the 15 institutions, there are three of them that act as key institutions,

Table 3. Position and Weight of the Role of Institutions in Strengthening Cocoa Smallholders Institutional

Institution	Weight	
	DP>0.50 (High)	D≤50 (low)
1. Farmers Group (*Kelompok Tani*)	0.95	0.40
2. Transportation Business Services	0.95	0.50
3. Combined Farmers Group (*Gapoktan*)	0.80	0.50
Average	0.90	0.47
	DP>0.50 (High)	D≥50 (High)
1. Environment Agency (BLH)	0.55	0.55
2. Loc. Office for Forestry & Estate (*Hutbun*)	1.00*)	0.65
3. Loc. Office for Industrial &Trade (*Perindag*)	0.95	0.85
4. Loc. Office for Agriculture (*Pertanian*)	0.95	0.80
5. University	0.80	0.85
6. Banking (*Perbankan*)	0.90	0.65
7. Cooperative (*Koperasi*)	0.70	0.65
8. Farm Partnership Supervisor (PMT)	0.55	0.75
9. Extension Service Officer for Estate (PPL)	1.00*)	0.55
10. Traders/Collector	0.70	0.70
11. Marketing Institution	1.00*)	0.55
12. Home Industry	0.80	0.75
Average	0.83	0.69
	DP<50 (Low)	D≥50 (High)
1. Regional Development Board (*Bappeda*)	0.30	0.55
2. Non-Government Organization (LSM)	0.10	0.85
3. International Cocoa Organization (ICCO)	0.35	0.55
4. Indonesian Cocoa Association (*Askindo*)	0.40	0.85
5. Brokers	0.15	0.90
Average	0.26	0.74

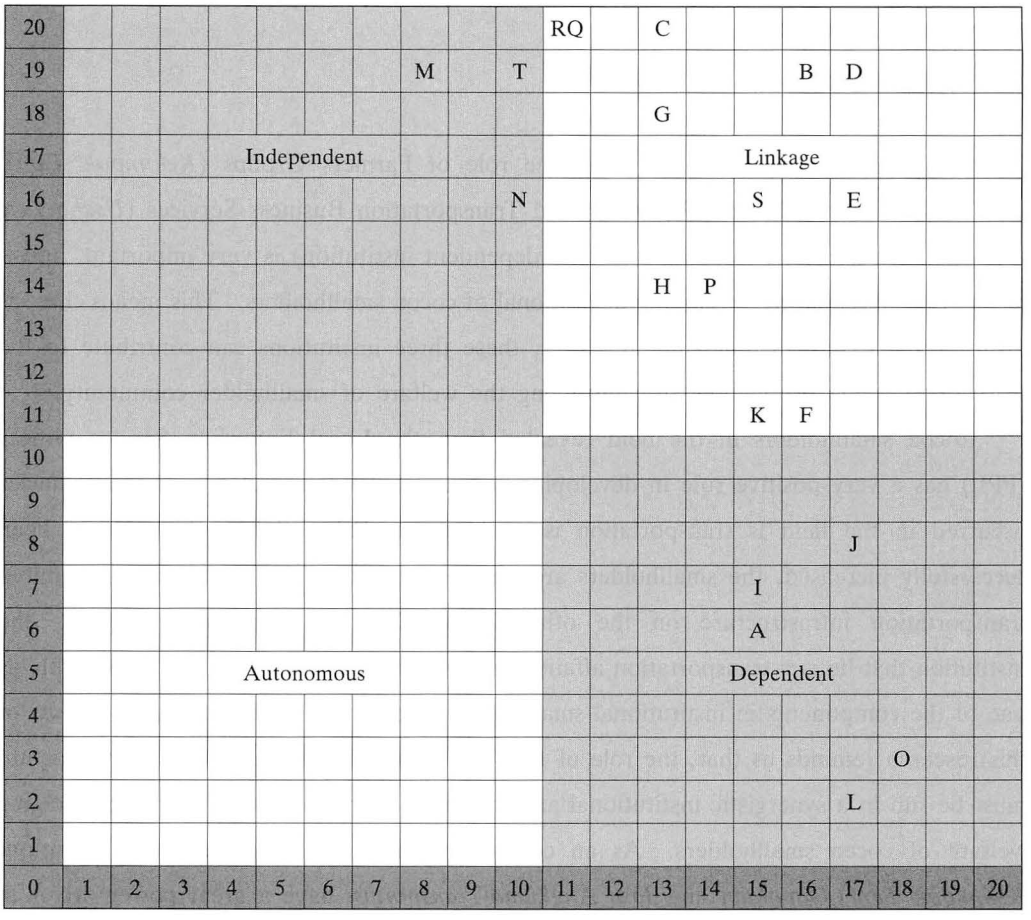
* indicates a key institution in the analysis

namely : (i) Local Office for Forestry and Estate (called Hutbun)[5], (ii) Extension Service Officers for Plantations (PPL), and (iii) Marketing Institutions.

In addition, there are five other institutions have a very weak contribution to the cocoa smallholders development (DP≤50), namely (i) Regional Planning Board-(Bappeda), (ii) Non-Government Organizations (LSM), (iii) International Cocoa Organization (ICCO), (iv) Indonesian Cocoa Association (*Askindo*), and (v) Brokers. These five institutions have a high weight dependent (D>50). It means that, these institutions do

5) It is important to note that, both provinces have different Local Office name. South Sulawesi has Local Office for Estate (*Dinas Perkebunan*), while West Sulawesi has Local Office for Forestry and Estate (*Dinas Kehutanan dan Perkebunan*). However, we use Local Office for Forestry and Estate in this paper.

Figure 2. Position of Institution in Strengthening Smallholders Development



Note:

A = Regional Development Board
B = Agriculture
C = Forestry and Estate*)
D = Industrial and Trade
E = University
F = Environment Agency
G = Banking
H = Cooperative
I = International Cocoa Organization (ICCO)
J = Indonesian Cocoa Association
K = Farm Partners Superv. (PMT)
L = Non-Government Organization
M = Farmers Group/FG
N = Joined FG (Gapoktan)
O = Brokers
P = Traders/Collectors
Q = Extension Officer (PPL*)
R = Marketing Institution*)
S = Home Industry
T = Transport Business Services

* indicates a key institution in the analysis

not indicate a real contribution to the cocoa smallholder development in the region. It is important to emphasize that this finding should not be interpreted to mean that these five institutions have no contribution (as DP is not zero) in cocoa development at all. There is a contribution, but it is very weak in strengthening institutional, especially in the local/smallholders level.

To be more precise position of each institution in contributing to cocoa smallholders

development, 19 institutions are represented in a Matrix Driver Power-Dependent (DP-D) as shown in **Figure 2.**

3.2. Institutions in Independent Position

ISM analysis results indicate that, the role of Farmers Groups (*Kelompok Tani*), Combined Farmers Group (*Gapoktan*) and Transportation Business Services (*Usaha Jasa Angkutan/Transportasi*) (identified as an independent institution) is very important, and it has a great potential in developing institutional of cocoa smallholders. This means that, as institution that has an independent power, these three institutions can contribute to the increase in cocoa production and improving the welfare of smallholder community.

Cocoa smallholders in the field revealed that, the Local Extension Service Officer (PPL) has a very positive role in developing cocoa smallholders, but one of the obstacles occurred in the field is transportation issue. On one hand, the production has been successfully increased, the smallholders are not able to access the market due to limited transportation infrastructure on the other hand. Even in institutional context, the institution that houses transportation affairs (*Perhubungan*) does not yet feel responsible as one of the components in institutional smallholder development. Therefore, the results of this research reminds us that, the role of PPL and improving transportation infrastructure must be run in a synergistic institutional arrangements, as important actors in encouraging welfare of cocoa smallholders. As an component that is in an independent position, *Kelompok Tani, Gapoktan* and *Jasa Angkutan/Transportasi* have a great power driver in developing cocoa smallholders. Instead, these three institutions have a very low dependency on the other sub-elements. Therefore, as a component in cocoa smallholders institutional, these three institutions should be maximized their role wherever possible in order to contribute concretely to the cocoa smallholders development.

3.3. Institutions in Linkage Position

ISM analysis results show that there are 12 institutions in linkage position (see **Table 3** and **Figure 2**). In strengthening institutional of cocoa smallholders, these 12 institutions must be managed carefully. As the agency in linkage position, these institutions have not only a high potential driver power, but also a high dependency to the other sub-elements. This means that, these institutions serve as "influencing and influenced variables" to the other variables. Therefore, it is possible that among the 12 institutions have not only a positive influence on the cocoa smallholder development program, but instead may be a limiting factor in development program.

Among theses 12 institutions in this position, there are three key actor agencies, namely: (i) Local Office for Forestry and Estate (*Hutbun*), (ii) Extension Services Officers for Plantations (PPL) and (iii) Marketing Institutions. It is easy to find the farmers group opinion in the field that, the role of *Hutbun* and PPL is evident in efforts to increase production. However, the increase in production is not coupled by price stability in the market. It is a common phenomenon that when cocoa production increases, the market price plummeted. This situation, of course, has a negative impact on profitability decline in cocoa farming. In addition, it was also found that farmers are reluctant to do fermentation of cocoa beans, simply because there are almost no differences in market price between fermented beans and unfermented ones. This phenomenon proves that marketing—marketing institutions in this case—in fact, played a key role in the development/improvement of cocoa smallholder welfare. This is also examined by Arsyad (2010) that, linking smallholders directly to district markets, can avoid the strong influence brokers exert in terms of price discrimination. Efforts to increase cocoa production without coupling a stable market, it is impossible to obtain smallholders welfare as strongly expected. This finding could be the answer to the question why even if cocoa production as mainstay of exports, it cannot improve smallholders welfare in the country.

Another interesting point is, these 12 institutions in linkage position—of course, in the context of institutional—can have multiple influences. It means that, they can be expected to improve smallholders welfare, however, it should be emphasized that they can also be an inhibiting factor in achieving development program. A major implication of these findings is, maximizing positive contribution of these institutions could be a potential way to speed up the strengthening of cocoa smallholders institutional.

3.4. Strengthening Institutional of Smallholders through Education and Training

The findings of study, at least give an initial warning to the stakeholders that, it is true in developing or improving cocoa smallholder welfare, Local Office for Forestry and Estate (*Hutbun or Perkebunan*) is not a single agency that should be responsible. It has been argued earlier that, there are 15 institutions are expected to play an active role in strengthening cocoa smallholders. The 15 institutions distributed into two groups; three institutions in Independent Position, and 12 in Linkage Position.

In institutional development, education and training is still considered as a powerful tool. Therefore, in strengthening institutional of cocoa smallholders, training is deemed as a possible option. Training for the development of cocoa smallholders has been done by *Perkebunan*, needless to say, without any coordination with other agencies. This is caused

by the erroneous assumption that *Perkebunan* is a single institution or the only institution that has the duties and functions (called TUPOKSI) relevant to the cocoa development — as estate crop —, including institutional of cocoa smallholders.

Given the number of agencies involved in cocoa smallholder institutional, the educational and training materials for smallholder development are also increasingly varied. ISM results showed that, of 14 main subjects as alternative and training materials in the analysis, there are 10 considered important (as clearly depicted in **Table 4**). Of these 10 subjects, four of which are in Independent Position, and six other materials in Linkage Position. In addition, it is important to note that, four other main subjects ; (i) replanting/rejuvenation of plants, (ii) seeding, (iii) farm financial management, and (iv) farm accounting, located in Dependent Position. This means that, there may be a close relationship between these four materials with smallholder development, but its position can be ignored by strongly considering that, these material contents are already summarized or depends on the other materials.

3.5. Sub-elements Education and Training in Independent Positions

ISM analysis results (**Table 4**), shows that there are four fundamental training materials have a high driver power (weight of DP>0.50) and low dependency (D≥50), namely : (i) post-harvest management, (ii) marketing, (iii) management and plant maintenance, and (iv) trimming and sanitation. **Figure 3** also clearly shows that, all four of these materials are in an independent position, meaning that these materials have a high driver power, in addition to their low dependence on the other materials (sub-elements).

Among the four sub-elements/materials in Independent Position, two of which are key sub-elements ; (i) post-harvest management, and (ii) marketing. Post-harvest management is important because its links with quality improvement of cocoa beans, such as fermentation. Through fermentation, the beans are expected to have a competitiveness in the market, creating a high added value. Similarly, marketing is also the key training material that is needed by stakeholders. This is in line with the findings of Ali & Rukka (2012), who suggested increasing the efficiency of the marketing of cocoa through three factors : (i) the need for control of the government in terms of cocoa distribution traffic, (ii) accumulation and traders cooperation are institutionalized, and (iii) necessary to design a microfinance institutions in cocoa production centers, so that smallholders have an easy access to capital.

It is important to note that the institutional elements and training material elements strengthen one another in cocoa marketing. In other words, marketing agencies is a key

Table 4. Position and Weight of Materials Interest in Educating and Training Cocoa Smallholders for Institutional Development

Sub-elements/ Materials	Weight	
	DP>0.50 (High)	D≤50 (Low)
1. Post-harvest management	1.00*)	0.43
2. Marketing	1.00*)	0.43
3. Management and plant maintenance	0.93	0.29
4. Trimming and sanitation	0.86	0.43
Average	0.95	0.39
	DP>0.50 (High)	D≥50 (High)
1. Provision of agriculture input	1.00*)	0.78
2. Planting/countur strip cropping	0.57	0.86
3. Technique of making/utilizing organic fertilizers	0.57	0.64
4. Plant rehabilitation/rejuvenation	0.64	0.71
5. Cocoa farming institutional	0.64	0.93
6. Access to capital resource	0.93	0.93
Average	0.72	0.81
	DP≤50 (Low)	D≥50 (High)
1. Replanting	0.50	0.78
2. Seeding	0.43	0.78
3. Farm Financial Management	0.28	0.86
4. Farm Accounting	0.14	0.93
Average	0.34	0.84

* indicates a key materials of education and training

sub-element in the institutional, while marketing is key sub-element in terms of education and training materials. All these bring an important message that, marketing sub-element is an essential training material needed by stakeholders in strengthening cocoa smallholders institutional, particularly in improving smallholder welfare. This indication is also supported by Jari & Fraser (2009) that, access to market information has a positive sign for both formal and informal market choices, which is consistent with the *a priori* expectations. The significance values of 0.011 for the informal market choice and 0.006 for the formal market choice imply that there is enough evidence to support that an increase in the availability of market information results in an increase in both informal and formal market participation. The larger values in odds ratios show that households are most likely to increase participation in both informal and formal markets with the availability of market information. As shown by the coefficients, the increase in formal marketing, resulting from market information availability is about twice the increase in informal marketing.

Figure 3. Position of Material Interest in Educating and Training Smallholders for Institutional Development

14						IJ					A			
13				D					N					
12						F								
11			Independent							Linkage				
10														
9										H			K	
8									E			C		
7											G			
6											B			
5														
4			Autonomous						Dependent			L		
3														
2													M	
1														
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14

Note

A＝Provision of agriculture input*)
B＝Seeding
C＝Planting/contour strip cropping
D＝Management and plant maintenance
E＝Technique of making/utilizing organic fertilizers
F＝Trimming and Sanitation
G＝Replanting/rejuvenation
H＝Plant rehabilitation
I＝Post-harvest management and fermentation*)
J＝Marketing*)
K＝Cocoa farming institutional
L＝Farm financial management
M＝Farm accounting
N＝Access to capital resource
* indicates a key materials of education and training

3.6. Sub-elements Education and Training in Linkage Positions

The matrix in **Figure 3** shows that, there are six sub-elements in Linkage Position ; (i) the provision of production inputs, (ii) access to capital resources, (iii) plant rehabilitation, (iv) cocoa farming institutional, (v) technique of making/utilizing organic fertilizers, and (vi) planting/contour strip cropping. Of these six, the supply of production inputs is a key sub-element, followed by access to capital resources (DP＝0.93). Furthermore, four other sub-elements include plant rehabilitation and farms institutional have the same weight (DP＝0.64), technique of making/utilizing organic fertilizers, and planting /contour strip cropping also have the same weight (DP＝0.57). Indeed, the order of the six sub-elements of interest is determined by the weight of driver power (DP). However, as a sub-element in linkage position, deserves special attention and careful management. The accuracy in the management and implementation will result in success for development of cocoa smallholders, but if it is not managed seriously will lead to failure and even raises new

problems that can hinder cocoa smallholder institutional development.

4. Conclusion and Policy

Two principal findings are; first, of the 19 sub-elements as agencies are expected to have contribution in strengthening institutional of cocoa smallholders, only 15 of them showed significant role. Among these 15 institutions, three of them ; (i) Farmers Group (*Kelompok Tani*), (ii) Combined Farmer Groups (*Gapoktan*), and (iii) Marketing Institutions, are in independent position. All these three institutions have a high driver power in strengthening institutional of smallholders. Therefore, they are considerably important in institutional development, meaning increase smallholder welfare. Furthermore, 12 other institutions are in linkage position, three of which are key actors ; (i) Local Office for Forestry and Estate (*Hutbun* or *Perkebunan*), (ii) Local Extension Services Officer for Estate (PPL) and (iii) Marketing Institutions. This leads us to argue that, maximizing positive role of *Perkebunan*, PPL, and Marketing Institutions could help smallholder institutional development or improving smallholder welfare. Second, in educating and training steps, there are 10 materials can strengthen smallholders institutional. Four of which are in independent position ; (i) post-harvest management & fermentation, (ii) marketing, (iii) management & plant maintenance, and (iv) trimming & sanitation. This indicates that, all these four have a very high driver power as training materials in smallholder development. The other six is in linkage position ; (i) the provision of production inputs, (ii) access to capital resources, (iii) plant rehabilitation, (iv) cocoa farming institutional, (v) technique of making/utilizing organic fertilizers, and (vi) planting/contour strip cropping can also be possible materials. However, as a sub-element in linkage position, deserves special attention and careful management. The accuracy in management and implementation will result in success for development of smallholders, but if it is not managed seriously will lead to failure and even raises new problems. Of the 10 principal recommended materials, three of which are sub-key ; (i) post-harvest management & fermentation, (ii) the provision of agriculture inputs, and (iii) marketing. A major implication of this finding is that, introducing intensively these three materials in educating and training smallholders could become a potential route to strengthen institutional towards smallholder welfare.

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