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IMPLEMENTATION OF DEMONSTRATION PLOTS ENERGY SELF-SUFFICIENT VILLAGE NYAMPLUNG (*Calophyllum inophyllum L*) IN BULUAGUNG AND PATUTREJO VILLAGES

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Abstract - Energy self-sufficient village program aims to improve stock and diverse energy source and society economic opportunity. Nyamplung was very potential plant to be used as raw material of biofuel, because it had very high fat plant content and had not be used for food. The biofuel from nyamplung was a new innovation. Involvement of forest village community in biofuel industry development both as producers and as consumers was very important. Forestry Ministry had established demonstration plots in Buluagung and Patutrejo villages as a facilitation in developing biofuel nyamplung silvoindustry. Up to now, the demplots still faced some problems. The research method was qualitatif analysis. Collecting data from 62 respondents using purposive sampling. Data were collected using questionnaires, field observation, and in-depth interview. Focus group discussion was used to confirm the data from the respondents. Research results show that the demplots had not been developed through participatory approach. Involvement of community to demplots activity was low. Involvement of the village communities are significantly correlated to biofuel price, technology innovation, role of demplot and support from local leaders.

Key words: biofuel, nyamplung, demplot, community involvement.

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INTRODUCTION

The necessity of energy continually increased as average of increasing Indonesian population from year 2000 until 2010 as 4.2 percents per annum (BPS, 2010) and the national economic development as 6.0 percents per annum (Kemenko Perekonomian, 2010); but in the fact the petroleum reserved wouldn't fulfill the requirement in the future. When the world oil price arised over US\$100 per barrel, so the research and develop urged the alternative energy. such as; Bahan Bakar Nabati (BBN) or biofuel.

Presidential Republic of Indonesia Regulation Number 5 year 1996 regarding National Energy Policies determined biofuel production target year 2025 as five percents from

the total of national energy needs. Implementation of national energi policies would bring into form of Energy Self-Suffecient Village or Desa Mandiri Energi (DME) programme which announced by the President on 2007, for the purposes to fulfill the energy needed in the village through development of sort of technologies and approached related to the latest new energy. Ministry of Forestry in DME programme got order in providing raw material of biofuel.

The criteria of choosing the location of DME consist of five matters : (a) There were communities who keened to develop, (b) there were raw material energy sources, (c) there were technologies, (d) investment (central

government, local government, and communities) and (e) had to have support system communities. Buluagung village and Patutrejo Village had been chosen for the first of Demplot location of DME Nyamplung.

To effort the development of the latest new energy of communities basis, correlated with information network about technology innovations, communities education or information, with along the increase of capacity. This supports of fact of raw material biofuel (BBN) in Indonesia was quite a lot. Tatang dkk. (2005) stated that the plants produced the fat oil can be made identification of biofuel as amount of 50 kinds of plants, such as Nyamplung (*Calophyllum inophyllum* L). Nyamplung was an authentic Indonesia plants (endemic) could be found at the sandy and vertile soil area. Chandra, Setiawan, Gunawan, Widjaja (2013) stated that Nyamplung seeds have potential as raw material of biodiesel. The main advantage of nyamplung as material of BBN as (1) the seeds content high fat oil for 74 percent; and (2) the usage as biofuel not competent with the food or non food.

Forestry Research and Development Agency - Ministry of Forestry cooperated with Directorate General Oil and Gas - Ministry of Energy and Mineral sources, year 2009 built two of Demonstration Plots (demplot) DME Nyamplung basis with the cost from Stimulus fund Fiskal APBN ESDM year 2009. Demplot DME Nyamplung located in (1) Buluagung village, Siliragung Subdistrict, Banyuwangi Region, Province of Jawa Timur, and (2) Patutrejo village, Grabag Subdistrit, Purworejo Region, Province of Jawa Tengah, both demplots officially opened by Minister of Forestry on 6 of December 2009.

Development of Demplot DME Programme Nyamplung basis including the packages of activities as follows (1) Development of mini plant compact with the capacities as 250 litres, (2) development of Nyamplung nursery the capacity of 11.000 stalks of Nyamplung, (3) planting of 20,000 stalks of Nyamplung (including seed from natural seedling or kongkoa) (4) Nyamplung cultivation and plant operator training, and (5) for the beginning the supplying of material (fruit and Nyamplung seeds) from Perum Perhutani forest, was communities forest as can be used optimal.

Considering the Nyamplung processing innovation to be biofuel, the demplot concept as information method and research result, this research as to analyze the level of Buluagung and Patutrejo villages to support silvoindustry nyamplung biofuel continually after demplot development. The relation with the formula of research including the condition of coastal area in relation with energy, demplot implementation and development strategy of demplot group.

Demplot is common method in community development, where as demplot can be used as a sample of new innovation and centre of community learning. According to Lesmana and Wulandari (2010) demplot rice could be increase the adoption of new technology and rice productivity in Kutai Kertanegara Region, East Kalimantan Province.

The purpose of research was follows: (1) to identify the livelihood aspect in relation of supplies and usage of energy sources in Buluagung and Patutrejo villages; (2) to

analyze performance of Human Resources Development (HRD) of the staff of Demplot group in Buluagung and Patutrejo villages. (3) to analyze the work condition in group correlated implementation of DME Demplot in Buluagung and Patutrejo villages. (4) to analyze the continuity of DME Demplot in Buluagung and Patutrejo villages.

MATERIALS AND METHODS

The research population on each villages as 100 (a hundreds) respondents. The research population was individual of Buluagung and Patutrejo villages, i.e. (1) villages communities who involved in development of Demplot DME Nyamplung; whether as seed suppliers, former seedling workers, former cultivation trainee or plant operators trainees even seedling members, (2) key leader (formal or non formal leader) in Buluagung and Patutrejo villages elected, and (3) staff or plant workers of Demplot biodiesel DME Nyamplung.

Sample of research as 31 respondents per village or 62 respondents who had been proportional elected from each villages, the intensification of samples as 31%. The large of samples were appropriated as stated by Sugiyono (2007) that the proper samples were between 30 until 500, depends on the population. Qualitatif research method used to collect data and information through document technic studies, field observation, and deep interview. Data and information found to confirm through Focus Group Discussion (FGD) village level.

Desa Mandiri Energy (DME) programme was development potential to promote of diversification the latest new energy and to provide the energy which source from local resources, especially for non development and remote area. The success of implementation DME programme to give useful to communities to develop the high economic (pro growth), social as to create number of *large* jobs in local area (pro job) and to raise the communities wealthiness (Pro Poor), and maintenance the quality of environment (Pro Environment).

The new paradigm of forest development, to be positioned the communities as main roles of development. To support the communities got involve to keep maintaining on using forest resources from the forest development programme centralized on communities, it meant communities couldn't be looked as an object of development but as a subject of development who initiated, wanted and capable to manage and use forest resources. The new paradigm to give a chance to communities at forest village to get involved in maintaining and using the forest resources.

In the fact in the field not all applied the new paradigm. Better if the communities involved from planning until further evaluation. The more demplot would be succeed, so the more they could play the role of development to develop the communities to use Nyamplung. As paradigm, the involve of village communities not only as an implementer but as a main role of development comprehensively, start from planning until evaluation or programme. This participation will form sense of belonging and sense of responsibility the success of activities or development programme, if the

participation only partials so sense of belonging and responsibility to success was very low. This was stated by Brinkerhoff and Crosby (2002) the guarantee of development was the continuity development was the participation of communities members.

So, to effort silvoindustry development of Biofuel Nyamplung could give the optimal and everlasting, the success needed the supply, readiness and capability in development from local communities. The involve in development needs the association so the process will be effective, efficient and productive with the advantage could be felt with communities continuously.

To reduce the cost and or to rise the earning, it was usually to motivate from village to participate in development, which had been formed to create a group of work or social group. As Demplot DME nyamplung bases had to be part of information communities development of forest communities surrounding Nyamplung plants, so the process of innovation adoption and technology difuss continouly as expected.

RESULTS AND DISCUSSIONS

Livelihood Description

The both research villages located at the same south coastal of Java and have natural Nyamplung plants and big pangkuan forest belong to Perum Perhutani. The information about situation and condition of two research villages could see briefly on table 1 as follows:

Table 1. Situation and Condition Research Villages

Description	Buluagung	Patutrejo
1. Width of Area	3.884 ha	225.880 ha
2. Total of communities	7.901 people	2.854 people
3. Majority of Religious	Islam	Islam
4. Majority of jobs	farmer	farmer
5. Agriculture (paddy, vegetables, fruits , livestock)	moderate	many
6. Nyamplung seeds for DME	many	moderate
7. Institution of community forest Village	long-time	recent
8. Location of SPBU	near	near
9. Conversion of Kerosene to LPG	done	done
10. Nyamplung biofuel production	have been	have been
11. Access of village	limited	open

Eventhough had less amount of population, Patutrejo wider from Buluagung village. Ratio of sex between man and woman slightly similar, the influence of majority of religion Islam could be seen the influences by the value of the Islam. As a farmers, they related with the plant cultivation and close with the capability of plant resources.

There are three kind of cultural form according to Koentjaraningrat (1979: 186-187). First, culture form as idea, concept, value or norm. Second culture form as activities or human pattern of action in community. Third, culture form as human work. Koentjaraningrat also stated there are seven cultural element as follows: language, art, religious system, technology system, source of income system, social organization, and knowledge system.

Buluagung society included of Osing cultural group, which influence by Java and Bali culture. Osing group famous as farmer society who very good in gardening and tree planting (Sutarto 2006).

In the other hand, Patutrejo society influence by Java Mataraman culture, who famous as a diligent corp farmer. Agriculture crop production was average in Patutrejo village higher. It showed the farmers capability was better; this was related with inform the agriculture intensively, marketing more smoothly, and village access was more open.

Buluagung village was closed by the National Meru Betiri Park so it has a lot of natural Nyamplung, The nyamplung seeds collectors in Patutrejo, collected the seeds until Kebumen as key ring, the seedling of nyamplung seeds for DME factory was irregular depend on production or delayed.

Institution of forest village (LMDH) in Buluagung village established long time ago, Patutrejo was still new. The LMDH cooperation with Perum Perhutani was good to get technical guidance nyamplung cultivation.

Location of SPBU was closed by village and kerosene conversion to LPG, direct or non direct, it influenced the usage of energy in the two villages because the less usage of energy so low but the selling price of DME was expensive. Irregular operational was influenced of production order.

Performance of staff HRD and Group of member of Demplot in Buluagung and Patutrejo Villages

Ratio sex of men and women in Buluagung and Patutrejo villages were balanced as estimation, respondents of men (51) more rather than women (11) respondents, The Imbalance of respondents sex showed the packages of activities Demplot DME development for the first step, it interested and suited for who had chances to work out of the house rather than women, however to develop from DME silvoindustry could be accounted that the chances of women (mothers and teenager girls) to get involve to work in silvoindustry biodiesel nyamplung would be full operated widely, mainly to supply nyamplung fruit as silvoindustry materials.

The permanent job in Buluagung village was farmers (25 respondents) and traders (23 respondents), followed as labour 12 respondents and government staff (2 respondents). Remembering operational activities of Demplot DME BBN nyamplung was not intesive and working well, no one from respondents could work full time to manage silvoindustry nyamplung. Base on the jobs that respondents could be seen that the job or packages of activities demplot DME nyamplung development was more

interesting for respondents who worked as farmers or trader.

The most respondents status were married (54 respondents, 87%) and as head of families (48 respondents, 77.4%) with responsible of 2 or 3 people (53 respondents, 85.48%). Base on the data, could be concluded that Demplot DME development was more interesting for married respondents, they have responsible on their families. The married respondent had responsible of their families to work together to manage on packages of silvoindustry development to earn extra money.

The total respondents as 62 (sixty two respondents) was elected for a proportional purposive and 30 respondents domiciled in Buluagung village and 32 respondents domiciled in Patutrejo. The performance of management staffs and members DME at two villages.

Respondents age were varies from the young age (less than 30 years old) of 13 respondents until old age (over than 51 years old) of 10 respondents. The most age of respondents were 39 respondents or 84% can be grouped of production labour age, they were 31 until 50 years old. Productive age group to work, physically have bigger potential to produce things and services (Putri and Setiawina 2013).

The respondents age condition which the most of groups of labour production it showed the workers of development demplot DME packages nyamplung basis suitable with the groups of labour production. So that the communities with groups of labour production were group of communities who influenced in any activities of development demplot DME. Collection activities involved quite a lot student from primary school, because they were interested in getting cash money, so it was necessary to do same arrangement by village administration related with the underage labour law.

The most of formal education 47 respondents were Primary School until Junior High School. The amount of respondents who had under Primary school education (not passed or non education) were 10 respondents, the amount of respondents from Senior High School or over were 5 respondents. Base on the data we could see that village communities who had opportunities to participate or got involve in the activities of demplot DME nyamplung were communities who had education from Basic and Junior High School. The performance of communities of Buluagung and Patutrejo villages in brief, can be seen as follow in Table 2.

Table 2. Performance of Buluagung and Patutrejo Villages

Performance	Desa Buluagung				Desa Patutrejo			
	Staffs		Members		Staffs		Members	
	Σ	%	Σ	%	Σ	%	Σ	%
Age								
• Young Adult	2	25	4	18.2	2	22.2	5	21.7
• Mid-Age	5	62.5	13	59.1	6	66.7	15	65.2
• Old	1	12.5	5	22.7	1	11.1	3	13.1
Formal Education								
• Basic	4	50	18	81.8	5	55.6	17	73.9
• Mid-education	3	37.5	4	18.2	4	44.4	6	26.1
• High	1	12.5	0	0	0	0	0	0
Non Formal Education								
• High	1	12.5	0	0	0	0	0	0
• Middle	2	25	2	9.1	2	22.2	4	17.4
• Basic	5	62.5	20	90.9	7	77.8	19	82.6
Cosmopolitan								
• To contact offshore								
• High	1	12.5	0	0	0	0	0	0
• Middle	2	25	2	9.1	2	22.2	4	17.4
• Low	5	62.5	20	90.9	7	77.8	19	82.6
• Contacted by Offshore								
• High	6	75	0	0	7	77.8	0	0
• Offshore	2	25	2	9.1	2	22.2	9	39.1
• Low	0	0	20	90.9	0	0	14	60.9
• Trip to out of Vilage								
• High	2	25	4	18.2	7	77.8	5	21.7
• Middle	4	50	8	36.4	2	22.2	6	26.1
• Low	2	25	10	45.4	0	0	12	52.2
Information usage								
• Seeking of Information about Agricultural business	4	50	11	50	6	66.7	14	60.9
• Non seeking of	4	50	11	50	3	33.3	9	39.1

Performance	Desa Buluagung				Desa Patutrejo			
	Staffs		Members		Staffs		Members	
	Σ	%	Σ	%	Σ	%	Σ	%
information about agricultural business								
• Received new ideas from visitors	6	75	11	50	8	88.9	14	60.9
• Non received new ideas from visitors	2	25	11	50	1	11.1	9	39.1
• Sent the feedback	3	37.5	5	22.7	4	44.4	7	30.4
• Non sent the feedback	5	62.5	17	77.3	5	55.6	16	69.6
Broaden Networks								
• Communicate with group members of farmers	8	100	18	81.8	9	100	20	86.9
• Communicate with trainer	8	100	18	81.8	9	100	20	86.9
• Communicate with the leader (informal)	4	50	9	40.9	5	55.6	10	43.5
• Communicate with Government staffs (formal)	2	25	4	18.2	3	33.3	5	21.7
• Communicate with success farmers.	8	100	18	81.8	9	100	20	86.9
Leadership								
• High	0	0	0	0	0	0	0	0
• Middle	2	25	4	18,2	3	33,3	6	26.1
• Low	6	75	18	81.8	6	66.7	17	73.9
Brave to take highrisk decision (Agresif to take the decision)								
• High	2	25	4	18.2	2	22.2	5	21.7
• Midle	3	37.5	7	31.8	5	55.6	8	34.8
• Low	3	37.5	11	50	2	22.2	10	43.5

The low of formal education on Junior High School or over arised the imbalance in some activities in Demplot DME nyamplung. As it happened in Buluagung village which only 1 respondent had high education over than Senior High School. When Demplot DME received the seminar invitation, so the representative who represented it were the same. This condition wasn't maximal ideally the respondents had the same opportunity to represent their village. This condition was the same with Pututrejo village, the representer only who had the Higher education such as Senior High School. According to perspektive fungsional, education function as a positive to transmision values between generation. In other hand conflict perspektive explained that education can be caused of social inequality (Martono, 2010).

To predict how far an innovation could be diffused to the user, as Rogers and Shoemaker (1981) had 5 innovation criterias as follows:

- Complexity, this innovation mostly failed because did not apply correctly. It needed knowledge and special skills, Sometimes much better if to collect the packet of simple innovation but related eventhough the relation was a bit difficult to understand, for example the best

milky cow can only produced more milk if it given the high protein and energy. At the end it needed the qualified farm system otherwise the milk produce less than the local cows.

- Compability, related with the culture values and believe, there was the innovation which introduced with the farmers needs, for example, it was very difficult to introduced the pigs farm in the Islam area eventhough it was profitable, in other words the farmers who achieved the highest production because they planted the best paddy varieties maybe would be achieved the best the corn varieties who suggested by the trainer.
- In relation with limitation of sources. The innovation which could be tried little by little would be faster to be used from user rather than innovation which cannot be used little by little. for ekstrem example, innovation which the usage of computer package (it had consist of CPU, monitor, software for programme, printer and electricity) would be slow to apply rather than calculator innovation which didn't need any support equipment.

- Relative advantage. Was an innovation possible for farmers to achieve better or with the low cost as before? the criteria which we could use for the new innovation no limitation for the advantage economically. Other criteria could be social advantage, for example the advantage arise the social status, the easiest level user even the satisfaction.
- Observability. Farmers could be seen from the colleague who changed to feed corn to his livestock, but maybe he didn't know about books which used by the neighbour. Because afraid of competition one of the farmer may not show the excellent livestock to his neighbour. Some of the farmers learned by observation from colleagues. the observations as caused to start discussion.

Training and or information as a strategic and in common used as technology transfer. In the training always had to see 4 factors: material, method, media and motivation. Much better if the training applied by the professional (widya swara at Education and Training Center) which had the feedback from the research and development, also from extension agent, and applied with the trainer (after widya swara trained). Trainee carried out the result of training to communities. Extension development can be used to make better knowledge, skills and attitude (Amanah 2006).

The most of respondents didn't have non formal education such as training and or extension. In the last year, 51 peoples (82.0%) followed training or information was only once, 10 people (16.13 %) followed 2-3 times, and only 1 people (1.61%) respondent who followed training or extension 6 times. The most of the training substances related with the food farmers, while the training about nyamplung held only once when opening of demplot DME in two villages.

Nyamplung training did once, so it didn't fulfill to up their knowledge, up-skill, and attitude communities about nyamplung, because to upskill the communities had to be done few times. Lack of training about nyamplung cultivation and other skills which related with management activities didn't ever do, while to manage the plant or other business needed the good management so can operate smoothly. They didn't have management course, and training about marketing as well never given to them as staffs and members of demplot DME in two villages

This condition showed the communities not keen to attend the training or extension it was because opportunity or chance to attend the training nyamplung was very low. So the willingness to attend the training at Development of Demplot Nyamplung as a ticket to other training.

The caused of this condition was lack of communities capability to plant and maintenance the nyamplung seeds, so the supplies expected to fulfill from the crops but in the fact was failed because didn't have any training and it caused of termination of operational of DME nyamplung plant, because of lack of knowledge about management and it caused high cost and non effective operational activities. They didn't have any skills they got from training about marketing as the important part of the plant. If we could see from the how expensive the biofuel compared diesel

the DME plant should did the marketing innovation which had special market as one of the big private company as they had biofuel production as nyamplung seeds material. They had special market, they sold their biofuel production to telecommunication transmitter to the remote to produce their biofuel product was competed with the BBM diesel.

Cosmopolitan was the openness of communities member around forest on the information through their relation with other information sources (Roger, 2003). Regarding Mosher (1986) the openness communities members towards information related with the acceptance of the changing of their attitude to gain their agricultural business, and Hanafi (1986) had quoted Roger stated that the individual cosmopolitan could be identified with the attribute which differentiate between them in their communities. i.e.: (1) individual had social status, (2) social participation higher, (3) more offshore communication, (4) Used more mass media, and (5) had many relationship with others and institution which was out of their communities.

Azizi and Hikmah (2008) stated that cosmopolitan from prawn cultivation at Tanah Laut Regency, province Kalimantan Selatan as internal factor which influenced towards respondents decision maker to accept the innovation. other words respondent innovation decision maker prawn cultivation influenced by the cosmopolitan level.

Staff respondents performance and members, cosmopolitan respondent level with criteria as follows: (a) seeked of information related with the agricultural activities. (b) followed the learning and or self training. (c) followed the information and or assistance, (d) followed the social activities, (e) accepted the new ideas from visitors (f) to communicated with trainer, government officers and communities figures and (g) asked to successful farmers about agricultural business more often.

Cosmopolitan condition influenced with accesibility from village. This condition showed the cosmopolitan level in Patutrejo village was in general better rather than Buluagung village, it because Buluagung village was isolated or far away from city. Patutrejo village located on the main road so it was mobilization easier, otomatically this condition was easier for the communities to contact outside, and to be contacted from outside village and easy to access out of village.

Experiences proved as communities could contact with the party outside the village otomatically rise the usage of information that they need for developing agriculture and forestry in village. So the village more open not isolated got more information and use the information in developing agricultural business. Because the geographic of Patutrejo village had more better chances in using the information where the village located not far from city and state university so the village had an advantage to access the information about agricultural business. This village been invited by the university to accept the new ideas and receive the feedback. Buluagung village had limited access compared Patutrejo village, but they had an opportunity to use the information in using

information as information could be used from plant closed by the village.

The using of information could have a good value for both villages, the only thing the usage of information not maximum for development demplot biofuel nyamplung in the villages. The most of usage of information was limited for agriculture only and not specifically got information about nyamplung cultivation. Other thing the information about management and marketing not maximum using for development demplot BBN in both villages.

Other thing the straight balance with information usage, the more communities contacted with out side villages, it would direct influence with broaden network, both villages had a good network and the same access to communicate with group of farmers, with the agricultural trainer in villages, communicate with communities leader and successful agricultural farmers.

The information usage, broaden network in both villages didn't use as maximum for continuity of demplot biofuel. Communication they did, not specifically explained about Nyamplung planting and managing the biofuel plant nyamplung while the communication was limit about technically factors. Such as to communicate with the successfull farmer, the most of respondents were interested in technically how to plant or what kind of plants to be planted. Actually the communication was very important to motivate them which could give them the experiences. This matter was very important because was impossible the successful farmers when they started that they weren't fail. So if the use that properly, motivation, hard works, effort, keen and never gave up, could motivate the respondents in managing, developing, maintaining the continuity of demplot BBN in their villages.

The operational of demplot DME didn't run in the both villages as straight equivalent with the leadership. The leadership in both demplot DME in Buluagung and Patutrejo villages were very low because the leaders couldn't motivate the farmers to plant and maintain nyamplung so it caused decreasing of nyamplung seeds supplied. Incapability of their leadership to manage it caused inefficient plant operational it made the production cost was high so the biofuel price was high as well, so it couldn't compete in the market. The leaders couldn't have capability to create the new innovation for biofuel marketing to appoint the certain market, so far the market they relied on the communities who wanted to buy so it called pasive marketing and the continuity of DME nyamplung operational was marketing method which was more active and aggressive.

Base on an experience, the leaders in two villages of demplot DME nyamplung was passive because of lack of desire on maintaining demplot to be operated. the leaders in both villages relied on and waited support from out side the villages rather than they tried to create revolusioner innovation itself in their organization system. The idea about transferring the demplot BBN plant to have pure plant or bio oil in Buluagung which had proposed of LMDE Sumber Makmur was waiting on the fund from Pemda Region Banyuwangi. While in Patutrejo village, the continuity of demplot BBN plant was fasilitated by Region of Kepala Dinas Kehutanan so the plant had a partnership

relation with big private company and build networks with institution in related. We resumed here that the leader only kept waiting the support rather than to fix the system in demplot BBN itself.

The respondent were brave enough to take the high risk, it because influenced by their ages, whereas the older they were the less they took the high risk. We could see from Patutrejo village compared in Buluagung village, respondents in Patutrejo village were more bravery to take the high risk because they were younger rather than ages range in Buluagung village. The brave decision was very useful to carry out the demplot BBN because of price condition of biofuel nyamplung was failed to compete with diesel and it needed marketing system which active and aggressive. To have marketing system which active and aggressive it needed the brave decision from respondents and tried something new and needed to brave to take the risk to plant nyamplung and brave enough to use the information from outside to apply into demplot biofuel nyamplung.

Working Situation in the Groups of Demplot DME in Buluagung and Patutrejo Villages.

The accelaration of partnership multiparties Institution village communities basis, It specified in four main factors, included : 1) The readiness of communities to build institution/group/swadaya community and cooperative with other party, 2) executive/legislatif gave a space to build a working capability and communication with multiparties across the bureaucrat basis. 3) there were desired and capability from entrepreneur or business private institution to get involved to develop the communities through new cooperation, 4) there were initiative to build the information system, build the supervision system, social supervision mekanism democratic, communities basis, multiparties network involvement (Kolopaking, 2000).

Development Demplot activity package in the both research villages project characteristic and only once. Eventhough had given funding many times, but the activities wasn't going smoothly and didn't have maintenance cost. The other training which given to HRD management which given to demplot felt that too short, so the skills of the demplot staffs capacities were limited.

The development Demplot DME activities on the beginning on economical was felt quite advantage for communities of village eventhough still wasn't full enough. As the main earning, the involvement of respondents at the first it was possible because of the activities or development Demplot DME nyamplung was project characteristic, which could give cash money for their wages.

It related to the clarification concept of group of participation communities level as Selener (1997) in Ife and Tesoriero (2008), so the communities participation form was very beginning as an assistance or paternalism, which the power elements and control didn't involve the communities which wellknown with top-down approach. Other things because they have the difficulties in managing silvoindustry nyamplung, it wasn't solved yet, as lack of biodiesel production although nyamplung plant production

marketing, so the activities or Demplot DME nyamplung didn't give continuity of social economic advantage for communities in both villages in demplot location.

The continuity of social economic usage optimal for communities in activity or development of Demplot DME nyamplung, it needed the support from all parties as national or local, and optimal support from all aspects likes fund support, facilitation, research/science references, consultation/partnership, managerial training, environment, working networks cooperation and marketing network. The government support from central/national, we could see from the policies issued by central government as President Decree (Perpres) RI Number 5 year 2006 re.: National Energy Policies, It stated the biofuel production target year 2005 as five percent from the total amount of national energy needs. Ministry of Forestry had ordered to provide actively the biofuel materials. The implementation national energy policies it formed as a DME village programme, which announced by President on 2007.

Supporting in region scope or local identified by the road show which conducted by the Mayor and Governor of Jawa Tengah with biodiesel from Patutrejo village which had development Demplot DME nyamplung activities. The government support was still limited and ceremonial characteristic. The effect was expected to support of usage the biodiesel wasn't done yet.

Field observation to support funding of demplot DME nyamplung was from government (APBN) and Perum Perhutani. The forest village communities as individual or as group, had an ease and opportunity to use demplot DME nyamplung since the first development. Specifically this was related with the works of demplot development packet with the sources of fund from APBN, i.e. mini plant compacted with the capacities of 250 litres, making the seedling nyamplung with the capacities of 11.000 stalks, The cultivation nyamplung and plant operator biodiesel plant, and seedling as 20.000 stalks nyamplung seeds. On the other hand for the beginning the operational of biodiesel plant, the village communities could collect their fruit from nyamplung in Perum Perhutani plants for free and could direct sell to DME plant nyamplung, until the communities nyamplung plants could fully functioned.

The working facilitation as equipment and machines and the plant, as technology supported by Forestry Research and Development Agency (Balitbanghut) and village administrator. Balitbanghut gave the support such as nyamplung processor, started with the materials until biofuel nyamplung. The research support, science references as well supported in biofuel production nyamplung. The facilitation of management of nyamplung such as DME plant, group member would be provided by village administrator. Working group of DME nyamplung didn't have an office yet, so that for the purposes for meeting which use of house between us by turn.

Supported by consultation/partnership was possible to market the biodiesel nyamplung which got from the officer of Perhutani, Agricultural information, communities leader, government officer from region and sub - district, but it wasn't effective yet, remembering the limitation they had, but the bio physic and biodiesel processing

environment nyamplung had given from the village administrator and sub-district.

Other support stated above, which given from central government or local, they still needed other support to boost the biofuel nyamplung production. As managerial training support as they felt very low, so the staffs and members still had limitation and not capable to manage in their groups, at the end could cause the handicap of production in a whole.

The working networking felt, they weren't even. This was because influenced by and relied on the location from the village. so the isolated village had a big handicap in working network with other parties, so it caused the difficulties of development of Demplot biodiesel DME nyamplung. There were not marketing network was caused the difficulties of biofuel production nyamplung continually, which the marketing as standard the continuity from the production.

The leader of group DME nyamplung in Buluagung village was a Bachelor of Economic and his religion was Hindu. His leadership was good could be identified by the length of his working and never had replacement, but the group leader of DME nyamplung in Patutrejo village was graduated from Senior High School, his age was young, as he was a successful farmer, sociable, his leadership was good. Both the group leaders had concerned with their difficulties.

The Continuity of Demplot

At the research, Demplot DME plant nyamplung in both villages couldn't fully operated even had to stop producing, because of lack of nyamplung fruit supplied and very low selling price from the supplier even the production couldn't be marketed. The planting of nyamplung seedling in Buluagung village, the locations were spread out along the village road. but in Patutrejo village had been concentrated in communities forest on coastal area, but the seedling of nyamplung looked not well maintained

Through documents researched, field observation, interview and on focus group discussion, the problem which face on the LDME Sumber Makmur staffs and LDME Wana Lestari through document studies, field observation, depth interview and focus group discussion, the difficulties which faced on LDME Sumber Makmur staffs and LDME Wana Lestari in production of biodiesel nyamplung, obtained the information as follows :

- The high biofuel production cost especially because of mixture chemical (metanol, sulfat acid, KOH, nitrit acid, fospat acid) difficult to find and expensive. Other difficulties were materials of nyamplung fruit supplied not going smoothly and the length of production processed in demplot plant.
- The selling price biodiesel production demplot plant which had to be higher than the higher retailer price subsidised diesel (Rp.4.500/litre), so that based on the experience, to produce 100 litre biodiesel for two days it needed cost Rp.11.450,-/litre.
- There was communities members and consumer candidates who hesitated the quality of diesel which produced by demplot, to solve the problem stated

above Balitbang Kehutanan LDME staffs sent the sample test to laboratorium Sucofindo and did test for agricultural tractor. The result of laboratorium test fit the Indonesian National Standard (SNI).

- LDME Sumber Makmur was still lack of capital to produce for continuously business scale while they tried to asked operational fund to Pemerintah daerah Banyuwangi region, but not to or didn't agree yet.
- LDME Wana Lestari was still lack of capital to produce for continuously business scale and found difficulties to market biodiesel product, so they needed and found the working partnership which mutual symbiosis.
- They haven't get business diversification which could stress the production cost and added to benefit, such as waste management to be charcoal bricket, organic fertilizer and biofuel for generator.

LDME Sumber Makmur staffs proposed so the demplot BBN plant production nyamplung in Buluagung village only focus to produce the pure plant or bio oil or kerosene as an oil of qualified glazing roof which was used. Marketing target was roof in Siliragung sub-district and sub-district around it.

To propose of producing charcoal bricket nyamplung with material of cangkang and waste copra of bio oil nyamplung. But the proposed didn't support in funding yet from Pemda Region Banyuwangi.

LDME staffs Wana Lestari Patutrejo village facilitated by Dinas Pertanian and Kehutanan officer to give the way out such as cooperation with government Region Purworejo, Balai Pengelolaan Daerah Aliran Sungai (BP DAS) Serayu Opak, Perhutani KPH Kedu Selatan, CV Cahaya Khatulistiwa, and LSM Relung, to revitalization of demplot DME nyamplung plant in Petutrejo village. Until the field research finished, while the production experiment and cooperation agreement was on going, the development (Kompas, 9 May 2012) the result of biodiesel production had been used for road test in few region in Province of Jawa Tengah and Province of Daerah Istimewa Yogyakarta.

The condition of information of forestry organizer in both research villages since beginning of demplot DME development nyamplung basis wasn't smoothly and not involving instance who the main duty was in forestry information. This condition could be happened in the most of area Perum Perhutani. In research area at pangkuan forest which was the forest area as administrative located inside the communities forest, so the management had to be managed by Perum Perhutani with the communities (Program Pembangunan Hutan bersama Masyarakat, PHBM). So Perum Perhutani officer did technic training/guidance to pesangem farmers (penggarap areal Perum Perhutani) mainly about technic of how to plant agroforestry.

To organize forestry information in development of DME nyamplung basis was very important as stated by Slamet (2003), the most of changes of group communities were as a result of planning or initiative development agencies, which was functioned of architect of social changes. Agent reformation was profesional which tried to convince or guide the other people innovation decision, it was suited from trainer and the reformation institution

which they worked for. Up to now, no one formal Forestry Extension Agent who worked for both research villages. Suparta (2010) mention that the role of trainer as development agent was needed to support revitalization of agriculture, fishery, and forestry and applied the Laws Number 16 year 2006 regarding agriculture, fishery, and forestry training system which was on duty have to be prepared mainly to do agribusiness system, supported by medium and re-medium on proper works.

Canadian Renewable Energy Alliance, Organisation cooperation research forum recommended how importance of "community power" for development new energy development in Canada. The community power was definition as ownership and supervise local democratic which involved local communities to manage the balance of the objective's of Canada's Energy Policy. Ensuring security, prosperity and the protection of the environment (Doukes, 2006).

CONCLUSION

Demplot DME Nyamplung in Buluagung and Patutrejo villages build by Badan Litbang Kehutanan cooperated with Dirjen Minyak dan Gas ESDM, which the sources of fund from Stimulus Fiskal year 2009 fund, and officially announced by Minister of Forest on 6 December 2009. Eventhough very short development duration i.e. fund, implementation and official announcement in the same year, target physic and project administration can be achieved. The development of demplot in the beginning didn't involve the forestry instance and training in regions, so couldn't be completed with the training and support of technic facilitation from inter related.

Availability and the usage of energy from Buluagung and Patutrejo villages was enough so far for the villages need. The second appointment for both villages as Desa Mandiri Energi (DME) was base on the surplus of sources of nyamplung in both villages. So from the beginning both villages could be as example for other village itself.

The majority of individual characteristic respondents were young adults with the average of age 37.8 years, the most of them could be grouped of productive labour, i.e. individual of 31 years until 50 years old. Having formal basic education until Junior High School. with the duration of formal education was 7.4 years and non formal education level was low with the duration of non formal education similar 7.6 hours of training.

The low of formal and informal education was involved in continuity for DME nyamplung. The respondents weren't capable in seedling, planting and maintaining of nyamplung even in the managerial factors caused not capable in manage the demplot DME plant nyamplung, it caused not capable to fulfill main sources, not efficient of production cost until not capable to market the production.

The capability level of communities organisation to manage the demplot BBN programme was low to medium respondents assessed, and could be identified by the indicator capability technic which perceived with the medium level by 56.1% respondents, the level of capability managerial indicator perceived with the low level by 49.3

% respondents and capability social aspect which perceived with the low level by 52.0 % respondents.

Incapability of leader in the organization in Buluagung and Patutrejo it caused on low motivation the group of members of organization. The leader wasn't capable to motivate the members to innovate and sense of fight to maintain the continuity of production.

The research showed that all difficulties stated above from funded, the level of formal and informal of education with the situation in group which wasn't conducive, and caused the termination of BBN production in both villages. The main purpose to appoint both villages as Desa Mandiri Energi (DME) couldn't be yet achieved.

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