

Society Empowerment and Its Relation with the Productivity of Hutan Tanaman Rakyat (HTR)-Based Production Forest in Indonesia

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Abstract

One of six prioritized policies of forestry development in Indonesia is Revitalization of Forest Utilization and Forest Industry. The development of plantation, both industrial plantation and people plantation are a kind of way to satisfy the national wood industry needs. *Hutan Tanaman Rakyat* or *HTR* (*Hutan Tanaman Rakyat*, in Indonesian, or Plantation Forest Folk) is a plantation developed by a group of people in regard to improve potencies and qualities of production forest by applying silviculture which assures the forest resource preservation. *HTR* policy is Governmental policy aiming at alleviating poverty (pro-poor), creating job vacancy (pro-job) and improving growth quality through proportional investment between economic agents (pro-growth). This study aims at exploring society empowerment and the productivity of production forest products in *HTR*. This study employs survey method. This study is located in area of *HTR* throughout Indonesia, distributed in 26 Provinces in Indonesia starting from Aceh to Papua. Population in this study is region/ Regency implementing *HTR* development in Indonesia. Total population is 127 regions/regencies. Analysis unit (respondent) is Head of Forestry Service and Head of Society Empowerment, Market, Cooperative, and SME (to be noted, each region has different office name). Data analysis technique used is Cluster Analysis, Chi Square Cross Tabulation, and Factor Analysis. The result show The result of cluster analysis by Non-Hierarchical Cluster with Euclidean Distance showing 68 regencies classified in low productivity, 28 regencies classified in moderate productivity, and 31 regencies classified in high productivity. There is a relation between society empowerment and forest productivity. If the regency is able to implement society empowerment program well, it can produce good forest productivity. In contrast, if the regency cannot implement society empowerment well, forest productivity surely cannot be produced well. Factual data based on the table above proves it. Based on the empowerment variable, indicator of authority is the most dominant one as success or failure measurement of society empowerment. The authority states that forest group/society is given authority to change attitude or spirit (work ethics) to be their own. Therefore, they think that the change performed is the result of product of their willingness to achieve better change.

Keywords: Society Empowerment, Productivity, HTR

1. Introduction

One of six prioritized policies of forestry development in Indonesia is Revitalization of Forest Utilization and Forest Industry. Natural forest utilization in satisfying forest industrial needs currently cannot be relied on. Degraded natural forest condition as the result of illegal logging and forest fires, causing lacks of wood supplies for forest industries. The development of plantation, both industrial plantation and people plantation (*Hutan Tanaman Rakyat*) are a kind of way to satisfy the national wood industry needs.

HTR (*Hutan Tanaman Rakyat*, in Indonesian, or Plantation Forest Folk) is a plantation developed by a group of people in regard to improve potencies and qualities of production forest by applying silviculture which assures the forest resource preservation. Several basics of *HTR* policies is first, Government Regulation No. 6 of 2007 and Government Regulation No. 3 of 2008 about Forest Governance and Forest Management Planning, and Forest Utilization, second: Minister of Forestry Regulation No P.55/Menhut.II/2011 about Application Procedures of IUPHHK-*HTR* in Plantation, third: Minister of Forestry Regulation No P.3/Menhut-II/2012 about Work Plan on Utilization Attempt of Wood Forest of *Hutan Tanaman Rakyat* Results, fourth: Regulation of Director General No P.04/VI-BUHT/2012 about Guidelines of *Hutan Tanaman Rakyat* Cultivation, and fifth: Minister of Forestry Regulation No. P.05/VI-BUHT/2012 about Procedures of Selection and Development Assistance of *Hutan Tanaman Rakyat*. Plantation is located at: (1) non-productive production forest, (2) a place without any permission issue / other rights, (3) there is no reforestation plants and rehabilitation, (4) the presence of people relying on forest and forest products but has not obtained legalization/permission.

HTR policy is Governmental policy aiming at alleviating poverty (pro-poor), creating job vacancy (pro-job) and improving growth quality through proportional investment between economic agents (pro-growth). *HTR* policy provides more access for people in forest resource management. Governmental Regulation No. 6 of 2007

about Forest Governance, Management Plan and Forest Utilization, particularly articles 40 and 41 regulates about the areal designation for *HTR*, access to financial institutions, and basic pricing for *HTR* woods to protect and provide market access to people. Therefore, *HTR* policy is also an attempt of people economical empowerment to alleviate poverty through wider access to law, financial institutions and market.

Various problems arise in relation to *HTR* policy. First, it comes from *HTR* permission. According to Director General of BUK of Ministry of Forestry on June 2015, of 746.220 hectares of forest, only 194.465 hectares have obtained permission, only 14.390 hectares are realized or 7.40%, so that the average shows permission percentage and realization of 16.73%. On the other hand, up to now people have not fully understood about *HTR* program, though socialization is frequently conducted both by local government and central government [1]. This shows an issue in forest management and society empowerment causing forest productivity prone to be low. Hence, this study aims at exploring society empowerment and the productivity of production forest products in *HTR*.

2. Theoretical Background

2.1. Society Empowerment

Essentially the concept of “empowerment” and “empower” contain two definitions. The first definition is “to give power or authority to” which means to give, switch power and delegate authority to other parties. The second definition is “to give ability to or enable”, is defined as an attempt to give abilities or empowerment. On the other hand, empowerment based on semantics is defined as power derived from the “inside” which can be supported by elements from the “outside” [2].

In the context of society empowerment in Indonesia, there are three things which are necessary to be performed through ACTORS theory. First, the development needs to be directed to structural change. Second, the development is directed to society empowerment to alleviate the discrepancy issue in form of unemployment, poverty, and inequality by giving greater spaces and opportunities to people to participate in the development. Third, the development needs to be directed to cross-sector coordination covering inter-sector, inter-regional, and specific development program. In practices, those three directions must be performed integrally, directionally, and systematically and it is inseparable. Eventually, the allocation of greater spaces and opportunities to the society to participate in the development can synergize with the attempt to overcome unemployment, poverty, and inequality [3]. Empowerment framework can be perceived from the acronym “ACTORS” such as consisting of: A=authority by giving trust, C=confidence and competence, T = trust, O = opportunities, R = responsibilities, and S = support.

2.2. Forest Productivity

Productivity is a term in production activity as the comparison between output and input. According to Herjanto [4], productivity is a measurement stating how well the resource is managed and utilized to achieve optimal result. Productivity can be used as benchmark of an industry success or SME in producing goods or services. Therefore, the higher the comparison, the higher the product produced. The sizes of productivity can be varied, depending on output and input aspects used as basic aggregate, such as: labour productivity index, direct cost productivity, total cost productivity, energy productivity, raw material productivity, and etc [5]. Productivity size employed in this study is first, Economic : meaning that sought to minimal input in planning, then in practices the cost is also expected to be low. Second, Efficiency : meaning that by objective input or planning then optimal or efficient output can be achieved, and third is Effective : the targeted output will be similar to the output realized.

Productivity when associated to forestry is forest productivity. Forest productivity is declining along with the deforestation improvement rate, illegal logging and forest land conversion. Meanwhile, the demand on forest products is increasing along with the population growth, property, and industry. Forest product supplies is closely related to forest land productivity, if the supply is supposed to be risen the forest productivity must be improved.

The current forest condition undergoes productivity decline along with the declining forest width. According to TGHK [6], forest width in Indonesia is noted of 143,57 million hectares. Nevertheless, in the period of 20 years the forest width in Indonesia 103,904 hectares is remained consisting of 29,959 million hectares of Fixed Production Forest, and 17,173 million hectares of convertible Production Forest [7]. Deforestation rate in 1990-1996 was 1.87 million hectares, intensively increased in 1996-2000 to 3.51 million hectares. However, since 2000 up to now, deforestation rate has declined of 1.08 million hectares in 2000-2003, 1.17 million hectares in 2003-2006, to 830 thousand hectares in 2006-2009. The latest development, forest deforestation rate in 2009-2011 was 450 thousand hectares. Productivity decline of tropical forest was directly perceived in the decline of nutrient content in forest land, this is caused by much nutrient tropical area is stored in biomass (vegetation) on land as the form of closed system of nutrient cycle, so that when biomass is taken the implication is that most forest nutrient is taken as well.

2.3. Conceptual Framework

Empowerment concept by Friedman (1992) outlined three things necessary to be conducted through ACTORS theory. First, the development needs to be directed to structural change. Second, the development is directed to society empowerment to alleviate discrepancy in form of unemployment, poverty, and inequality by giving greater spaces and opportunities to the society to participate in the development. Third, the development needs to be directed on cross-sector coordination covering inter-sector, inter-regional, and specific development programs. In practices, those three directions must be performed integrally, directionally, and systematically and it is inseparable. Eventually, the allocation of greater spaces and opportunities for society to participate in development can synergize by the attempt to overcome unemployment, poverty, and inequality. On the other hand, there are several preceding researchers who analyze the relation between society empowerment and productivity (performance) such as [9,10,11,12,13,14,15,16,17].

3. Research method

This study employs survey method. According to Mc Millan and Schumacher [18], survey is used to study about attitude, belief, values, demography, behavior, opinion, habit, willingness, ideas, and other types of information. This study is located in area of *HTR* throughout Indonesia, distributed in 26 Provinces in Indonesia starting from Aceh to Papua. Population in this study is region/ Regency implementing *HTR* development in Indonesia. Total population is 127 regions/regencies. This study takes all regions which are 127 regencies implementing *HTR* development in Indonesia. Instrument employed is questionnaire with closed questions using options with 5 point of Likert scale (strongly disagree to strongly agree). Analysis unit (respondent) is Head of Forestry Service and Head of Society Empowerment, Market, Cooperative, and SME (to be noted, each region has different office name). Data analysis technique used is Cluster Analysis, Chi Square Cross Tabulation, and Factor Analysis.

4. Result and Discussion

Cluster analysis in this study is used to classify regencies implementing *HTR* into three levels of forest productivity result, namely low, moderate, and high in three levels which are economic, efficient, and effective. On the other hand, the result of cluster analysis also classifies regencies into three levels of society empowerment, which are low, moderate, and high. The result of cluster analysis by Non-Hierarchical Cluster with Euclidean Distance showing 68 regencies classified in low productivity, 28 regencies classified in moderate productivity, and 31 regencies classified in high productivity.

If it is seen from permission realization data compared to backup realization, group of high productivity consists of regencies with permission realization between 50 to 100%, group of moderate productivity consists of regencies of permission realization between 20 to 60%, whereas group of low productivity consists of regencies with permission realization between 0 to 10%. The result of cluster analysis on society empowerment assessment, 65 regencies classified in low society empowerment implementation, 27 regencies classified in moderate society empowerment implementation, and 35 regencies classified in high society empowerment implementation. Regencies classified in high society empowerment implementation are perceived from wide society's authority to manage production forest, high society's trust in implementing *HTR* program, society involved have quite high ability to manage the forest. It is also seen that in those regencies, society have a good responsibility to assure the forest preserved and maintain the existing ecosystem stability inside.

Both results of cluster analysis above are followed by Chi Square Cross Tabulation analysis to perceive the relation between society empowerment and forest productivity. The following table presents the result of cross tabulation between the two categories. Based on Table 1, it can be seen that of 65 regencies on low society empowerment category, there are 61 Regencies or 93.85% produces low productivity (Pidie, Aceh Timur, Aceh Singkil, Aceh Besar, Bener Meriah, Aceh Tamiang, Asahan, Padang Lawas, Labuhan Batu, Labuhan Batu Utara, Pakpak Bharat, Tapanuli Selatan, Rokan Hulu, Pelalawan, Siak, OKU Selatan, OKU Timur, Musi Rawas, Sarolangun, Tanjung Jabung Barat, Kerinci, Tanjung Jabung Timur, Bangka, Bangka Tengah, Landak, Sintang, Pontianak, Mempawah, Kapuas, Lamandau, Hulu Sungai Selatan, Kotabaru, Kutai Timur, Kutai Barat, Buleleng, Flores Timur, Timor Tengah Selatan, Sidenreng Rappang, Palopo, Takalar, Maros, Barru, Tana Toraja, Wajo, Gowa, Parigi Moutong, Banggai Kepulauan, Tolitoli, Morowali, Mamuju, Mamuju Utara, Buton Utara, Konawe, Bolmong Utara, Minahasa, Kepulauan Talaud, Bone Bolango, Gorontalo, Gorontalo Utara, Seram Bagian Timur, Biak Numfor), 4 Regencies (or 6.15%) produces moderate productivity (Meranti, Bengkalis, Batanghari, Sanggau Archipelagos). No regency with low society empowerment level produces high forest productivity.

Table 1. Cross Tabulation Between Empowerment and Productivity

Category	Low Productivity	Moderate Productivity	High Productivity	Total
Low Empowerment	61 Regencies	4 Regencies	-	65
Moderate Empowerment	7 Regencies	19 Regencies	1 Regency	27
High Empowerment	-	5 Regencies	30 Regencies	35
Total	68	28	31	127

At moderate society empowerment that is 27 regencies, where 7 regencies (or 25.93%) produces low productivity level (OKU, Eastern Belitung, Tabalong, Banjar, Pangkep, Majene, Boalemo), 19 regencies (or 7.37%) produces moderate productivity level (Simalungun, Kampar, Sijunjung, Pesisir Selatan, OKI, Tebo, Merangin, Bangka Barat, Belitung, Kubu Raya, Kotawaringin Barat, Bulungan, Manggarai Timur, Enrekang, Soppeng, Mamasa, Kolaka, Muna, Pohuwato), and 1 regency (or 3.7%) produces high productivity level (Sumbawa).

At high society empowerment level that is 35 regencies, where 5 regencies (or 14.29%) produces moderate productivity level (Langkat, Tanah Laut, Tanah Bumbu, Banggai, Morotai Island), and 30 regencies (or 85.71%) produces high productivity level (Aceh Utara, Bireuen, Mandailing Natal, Pasaman Barat, Kaur, Bengkulu Selatan, Muaro Jambi, Lampung Barat, Lingga, Karimun, Gunung Kidul, Lombok Barat, Lombok Tengah, Dompu, Sumbawa Barat, Luwu Utara, Pinrang, Tojo Una Una, Polewali Mandar, Konawe Selatan, Bolmong Timur, Minahasa Utara, Minahasa Tenggara, Minahasa Selatan, Bolmong, Bolmong Selatan, Halmahera Selatan, Halmahera Barat, Halmahera Timur, Nabire). No regency with high society empowerment with high society empowerment level, produces low forest productivity. The test results are as follows:

**Table 2. Chi Square Analysis Result and Factor Analysis
 Tabulated Statistics: Empowerment, Productivity**

Rows: Empowerment	Columns: Productivity			
	1	2	3	All
1	61	4	0	65
	93.85	6.15	0.00	100.00
2	7	19	1	27
	25.93	70.37	3.70	100.00
3	0	5	30	35
	0.00	14.29	85.71	100.00
All	68	28	31	127
	53.54	22.05	24.41	100.00

Cell Contents: Count
 % of Row

* NOTE * 1 = Low, 2 = Middle, 3 = High

Pearson Chi-Square = 153.803, DF = 4, P-Value = 0.000
 Pearsons r 0.908582

Factor Analysis: Authority, Confidence, Trust, Opportunitie, Responsibili, Support

Factor Score Coefficients for Empowerment

Variable	Factor1
Authority	0.777
Confidence	0.531
Trust	0.575
Opportunities	0.676
Responsibilities	0.571
Support	0.516

Based on Table 2, it can be seen that there is a relation between society empowerment and forest productivity. This is proven by P-value < 0.05. It is perceived that Pearson Correlation is positive (0.908) which indicates positive relation between society empowerment and forest productivity. In definition, if the regency is able to implement society empowerment program well, it can produce good forest productivity. In contrast, if the regency cannot implement society empowerment well, forest productivity surely cannot be produced well. Factual data based on the table above proves it. Of 65 regencies with the category of poor society empowerment implementation, 93.85% of that will produce low (poor) forest productivity as well. On the other hand, it can be

seen that of 35 regencies with good society empowerment implementation category, 85.71% (30 regencies) will produce high (good) forest productivity. Of 30 regencies with high society empowerment level and also produces high forest productivity, 11 regencies are in Sulawesi Island, 10 Regencies are in Sumatera Island, 1 Regency in Java Island, 4 Regencies are in West Nusa Tenggara, and the rest is 3 Regencies in North Maluku, and 1 Regency in Papua. These thirty regencies become success model of *HTR* development by involving full society empowerment

Based on the result of factor analysis, it shows that indicator of authority is the most dominant one as success or failure measurement of society empowerment. The authority states that forest group/society is given authority to change attitude or spirit (work ethics) to be their own. Therefore, they think that the change performed is the result of product of their willingness to achieve better change. This is consistent with Friedman (1992)'s argument that empowerment is "to give power or authority to" meaning to give, switch power or delegate authority to other parties. In definition, society is given full trust by government to carry out *HTR* program, to create better forest productivity.

This study is consistent with Friedman's (1992) theory which outlines three things which are necessary to be performed through ACTORS theory. First, the development needs to be directed on structural change. Second, the development is directed on society empowerment to alleviate discrepancy issue in form of unemployment, poverty, and inequality by giving greater spaces and opportunities to the society to participate in the development. Third, the development needs to be directed on cross-sector coordination covering inter-sector, inter-regional, and specific development program. In practices, those three directions must be performed integrally, directionally, and systematically and it is inseparable. Eventually, the allocation of greater spaces and opportunities to society to participate in the development can synergize with the attempt to overcome unemployment, poverty, and inequality. Therefore, the link between empowerment and productivity is perceived. On the other hand, this study is consistent with finding [9,10,11,12,13,14,15,16,17], that society empowerment influences productivity (performance).

By implementing empowerment program well, as stated in *HTR* objective, that plantation developed by a group of people aims at improving potency and production forest quality, assuring the preservation of forest resource. The plantation is located at: (1) non-productive production forest, (2) a place without any permission issue / other rights, (3) there is no reforestation plants and rehabilitation, (4) the presence of people relying on forest and forest products but has not obtained legalization/permission. Thus, by society empowerment program, particularly the allocation of authority to society, will be able to achieve *HTR* goal, is Governmental Regulation aiming at alleviating poverty (pro-poor), creating job vacancies (pro-job) and improving growth quality through proportional investment between economic agents (pro-growth). *HTR* policy gives more access to society in forest resource management.

5. Conclusion and Recommendation

Based on the analysis result, the conclusion are: (1) The result of cluster analysis by Non-Hierarchical Cluster with Euclidean Distance showing 68 regencies classified in low productivity, 28 regencies classified in moderate productivity, and 31 regencies classified in high productivity, (2) There is a relation between society empowerment and forest productivity. If the regency is able to implement society empowerment program well, it can produce good forest productivity. In contrast, if the regency cannot implement society empowerment well, forest productivity surely cannot be produced well. Factual data based on the table above proves it, (3) Based on the empowerment variable, indicator of authority is the most dominant one as success or failure measurement of society empowerment. The authority states that forest group/society is given authority to change attitude or spirit (work ethics) to be their own. Therefore, they think that the change performed is the result of product of their willingness to achieve better change.

Recommendation given by this study is to give input to government in order to re-evaluate the implementation of society empowerment policy around forest area, so that in the future *HTR* program will run more smoothly. There is an appropriate way. Government is expected to be able to make policy of additional budget for society empowerment around forest area.

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