Forestry devolution model for the resilience of smallholder livelihood system in the forest area of the eastern part of Indonesia

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Abstract. The policy centralization forest areas in Indonesia caused structural poverty and land conflict, and the result of about 14.62 million small farmers around the forest. In the forestry decentralization era, Indonesia is targeting 29.14 million ha of forest management rights schemes to establish several forestry management schemes such as Forest Management Unit (KPH), Community Forests (HKM), Village Forests (HD), and Community-based forest plantation (HTR). However, most of them are having stagnation and did not reach the target. This paper discussed the result of devolution policy and type on KPH, HKM, HD, and HTR that had a positive impact on accelerating the development of forest management rights and increasing the livelihood of small farmers. The result illustrates several findings. Firstly, the policy of political decentralization (de-concentration) from provincial government to the rights stakeholders (KPH, HD, HKM, and HTR) has to ensure the implementation of administrative decentralization (delegation) and functional decentralization (devolution) as well as the implementation of democratic forest management that signed by the distribution and redistribution authority from central bureaucracy to the lowest level that causing high participation of small farmers. Secondly, the policy of administration decentralization (delegation) creates the spatial of forest area management by farmers and ensure the security of tenure rights between land-based social relations in various small farmers group. Thirdly, the policy of functional decentralization (devolution) provides management rights to small farmers to develop an agroforestry pattern that enhances livelihood resilience while maintaining the quality of forest ecosystems.

1. Introduction

The number of poor farmer household in Indonesia is 26.14 million household and 14.62 million (about 56.12 %) is smallholder around the forest with land property under 0.4 hectare as impact of policy past that give access to manage forest area that cause structural poverty and agrarian conflict [1]. Dassir [2] mention that agrarian conflict to get access to manage forest area that cause structural poverty and agrarian conflict [1]. Forest management unit program (KPH), community forest (HKM), Village Forest (HD) and Community plantation forest (HTR) was targeted about 29.14 million hectare until 2019 that agrarian reform application to get access of management right of forest area as conflict resolution and can make prosperous community. Almost all of policy of agrarian reform have stagnant and it can’t fulfill the
target, so it need devolution policy that certain the successfulness of improving forest area management to improve the quality of livelihood strategy and resilience. Resilience is the ability of farmer smallholder to hold out and stabilization position from natural hazard, natural condition and economic unstable [3]. Resilience definition from Sumaryanto [4] that farmer in more endure condition, strong and flexible in facing instability. The resilience improvement of farmer smallholder, especially in facing the risk of flood, land slider, and drought in the last five years as consequence of climatic change in Indonesia [5].

Forest devolution can be held if authorization delegation be held to autonomy institution with the reason (1) to alleviate country burden in forest resource management by adoption of tradition rule, tenure system local regulation, with local wisdom of forest resource management, (2) community empowerment by strengthening community participation around forest and to build independency and self-help (resilience), and (3) as instrument to manage conflict resolution among stakeholder [6] [7]. The change of decentralization paradigm in the form of devolution reflect the effort to improve the effectivity of forest management, fulfilling the need of equality, social justice and democracy in managing natural resource, and meet the need the stakeholder to end the conflict without any party defeated. Aim of the purpose is to describe the decentralization of forest management institution and the impact to resilience of smallholder in eastern part of Indonesia and to formulate decentralization model of forest area management to improve the resilience and conflict resolution in eastern part of Indonesia.

2. Methods
Research was done in villages that the administered location in or around border with forest area which FMU areal and social forestry program (HKM, HD and HTR) and village inhabitant which have activity in the forest area. Population in this research, ie. All of the stakeholder which is related to institution of development and management of FMU and social forestry program, consist of smallholder that have activity and live in and around FMU and social forestry program, Village official and public figure with smallholder which the member of community forest management, or village forest, or it have activity in and around FMU area, Forest management institution that manage the FMU, Community plantation forest, Community forest, Village forest, from technical manager unit of Environment and Forestry Ministry, and province government and district government that related to forestry public service. Sample of village location was chosen by purposive sampling. 100 village was chosen which was distributed in 15 FMU and 35 unit of social forestry program. Data collection was done by interviewing, focus group discussion, observation and participatory rural appraisal. In-depth interview was done to key informant which consist of (a) technical manager unit of Environment and Forestry Ministry and provincial and district government that handle the policy of forest management decentralization, (b) key informant from village head, farmer group and public figure which about opportunity and obstacle to policy of forest area management decentralization. Interview to smallholder household which purpose to get information about impact of decentralization policy of forest management to livelihood strategy and resilience of smallholder resilience. Focus Group Discussion was intended to get information, agreed and perception sameness in community level, about vulnerability data and threat to livelihood, potency and opportunity and use of natural resource in the community to know resilience strategy of smallholder.

3. Research outcome and discussion
3.1. Implementation of policy decentralization of forest management in Indonesia
Target achievement of social forestry program (community forest, community plantation forest, village forest and partnership) until 2016 was just 46.8% in that stage of establishment of working area and that stage of permit allocation from the target 5 million hectare. Description in the former text indicate that the possibility of target achievement of social forestry program until 2019 is hard to achieved (Table 1).
Table 1. Target and program realization of forest managed concession of forestry Ministry until year 2016

| No | Concession scheme          | Target until 2016 | Realization (ha) until 2016 | Target until 2019 | Remark                  |
|----|----------------------------|-------------------|-----------------------------|-------------------|-------------------------|
| 1  | FMU                        | 209 unit          | 29.023.012,00               | 409 unit          |                         |
| 2  | Community forest           | 609.748,66        |                            | 12,7 million      | Social forestry program |
| 3  | Community forest           | 984.400,00        |                             |                   |                         |
| 4  | Community plantation forest| 5 million ha      | 686.300,83                  |                   |                         |
| 5  | Partnership                | 57.160.76         |                             |                   |                         |

Data source: 1. Workplan of directorate general of planology, Forest and Environment 2017
2. Achievement data performance of directorate PKPS MOFE 2016

3.2. Decentralization Model Needs to Accelerate FMU and Social Forestry

The high performance in FMU planning step or community forest, village forest and community plantation forest, because dominantly policy of decentralization administrative with deconcentrating characteristic [8] with budget from ministry of environment and forestry. Furthermore so Rahmatunnissa [8] give example the experience of Cambodia as developing country that have community with capacity of farmer structure organization still weak that dominated by social actor local elite, deconcentrating is applied to fluent decision system from the obstacle of tradition and political condition that instable.

In operationalization step the performance was very low because it was domain from concession holder. Decentralization policy which going on was still deconcentrating characteristic because depend on fund and policy referral of strategic management from ministry of environment and forestry. Should decentralization that going on have delegation characteristic [9] because FMU that have long term forest management plan was semi-autonomy organization that was given assignment consist of decision making and authority of forest management in site level was devolution characteristic. Human resources competency and budget was low because in operational step. FMU was the authority and responsibility of district government, so budget of FMU operational was depend on District Budget and Income. Another challenge in FMU internal, the policy of ministry of environmental and forestry to give the authority to manage certain area in FMU area as income source to manage FMU. Certain area in FMU area was forest area it that didn’t have license. So in the operational step, it needed devolution agrarian reform from FMU to manage forest resource, to overcome the conflict, to strengthen smallholder participation, and to enhance the resilience of local community [9].

Figure 1. Gap of Planning and Realization of Operationalization of FMU and Social Forestry

Political decentralization type in the planning stage of FMU was compatible to applied in establishment stage, because of establishment process of FMU acreage based on thematic map was central government authority according to government regulation No. 6/2007 jo. Government
regulation no. 3/2008, while the authority of FMU by district government according to regulation no.32/2004 and in 2014 become the authority of provincial government according to regulation no. 23/2014.

3.3. Decentralization Model Required for FMU Development and Social Forestry, to Improved Household Resilience of Small Farmers

The high dependency of smallholder farmers on land use and the collecting of NTFP in FMU area and social forestry, so management models for FMU and social forestry (HKM, HTR, HD) is needed to empowerment of these small farmers’ communities. The livelihood systems that support small farmers’ resilience in the FMU areas and social forestry, include (a) agroforestry business such as cocoa, coffee, candlenut and other plantation crops, (b) natural honey harvesting, (c) harvesting of palm sugar, and environmental services such as power plant hydro micro (PLTMH), irrigation water sources and drinking water from river streams that are found in forest areas.

The role of devolution in the management of FMU and PS on the resilience livelihood systems of small farmers, that are (a) the FMU and / or Social Forestry institutions shall hand over the administrative arrangements for the formation of farmer groups to the Section Chief of the FMU to collaborate with village institutions in determining which small farmers will be given the right to manage agroforestry in the empowerment zone of FMU or Social Forestry area. This devolution provides access for smallholder who have activities of agroforestry for years and generations within FMU area or Social Forestry, (a) facilitated by Section Chief of FMU jointly with village institutions (b) Delegates by Head of FMU to the Section Head of FMU, that is delegation of functions and powers from the Head of FMU to the Section Chief of the FMU, so that the de-concentration process can ensure the continuity of delegation and devolution while ensuring farmers have access to manage forest areas within the FMU area or Social Forestry, where the management system can improve agroforestry yields and at the same time diversify livelihood sustainability. While (c) devolution by the Section Head to the Smallholder of Farmer Group is a set of rights and responsibilities given to the farmers [10] to develop an agroforestry pattern as agreed by the Section Head of the FMU with the small farmers, so that the land managed by the farmer can increase yield production while maintaining the quality of the forestland ecosystem [11].

In order for the devolution policy on the Section Head of FMU to the farmer group to be sustainable, it is necessary to have a relationship based on property relations by producing a direction of change in the form of distribution or redistribution of management rights in the management of the FMU empowerment zone or Social Forestry area. The development of agroforestry by planting multi-plant in the FMU area or within the PS area can improve the resilience of farmers as it is more resilient to encounter environmental changes [12] and timber forest products from agroforestry can be used as a savings to be sold at any time in need of funds [3] while non-timber forest products from agroforestry, such as coffee, can provide significant foreign exchange and employment in Indonesia [13].
Figure 2. Administrative and Functional Decentralization Model in FMU area Management and Social Forestry area to increase smallholder resilience.

4. Discussion
Acceleration and sustainability of the FMU development process and social forestry programs through decentralization policies are largely determined by the extent of the decentralization process can build relationships on the basis of the property relations of land resources and forest resources by creating welfare and power transfers [10,13]. Legally, the devolution policy ensures clear transfer of rights to farmers’ groups around the forest while creating broader support programs create broader support programs, based on socio-economically, forest farmer groups can exercise their rights and benefit optimally through democratic governance processes [15], which is marked by the guarantee of inclusive citizenship participation processes [4], high responsiveness of state institutions (forestry ministry, provincial and district governments), and the local community concerned with the system of social institutions and local wisdom in the context of soil-based social relationships.

Finally, the policy of delegation and devolution will also be sustainable if the impacts can actually establish a relationship process based on existing property relations by producing a direction of change in the distribution or redistribution of land resources and forest resources in FMU development and social forestry. Otherwise, the devolution of FMU and social forestry cannot be accelerated or sustained if the changes create an impact on the status quo or non - (re) distribution or even produce (re) concentrations.

5. Conclusions and Suggestions
1. Decentralized de-concentrated and delegated applied to FMU development and social forestry programs are largely under-targeted, especially at the operational stage of FMU and the Social Forestry program. Decentralization needed to accelerate FMU development, including administrative delegation and devolved devolution to overcome land conflicts as well as to increase the resilience of small farmers and to improve the ecological quality of forest areas.

2. Decentralization Policy on FMU Development and Social Forestry are expected to establish the process of (a) ensuring the ongoing delegation and devolution while ensuring the tenure of small farmers managing land in the FMU area and social forestry through the policy of de-concentration;
(b) The policy of delegation and devolution serves to ensure the process of granting rights and responsibilities to small farmers to develop an agroforestry pattern as agreed by FMU institution and the social forestry farmers’ group.

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References

[1] BPS 2013. Statistics 2012. Central Bureau of Statistics. Indonesia
[2] Dassir, M. (2008). Baseline Survey of Selected Communities on Understanding of Their Tenure and Right to Forest Resources in Maros and Bantaeng District. Enhancing Capacity for Improved Community Based Forest management (ECIBFM) in Indonesia Phase 2 (Makassar : RECOFTC Report)
[3] Saraswati Y, and Dharmawan H A. 2014 Resilient Livelihoods of Smallholder Farmer's Farmers in Ciriwoyo District Wonogiri. J. of Rural Sociology 223
[4] Sumaryanto, (2012). Strategy for Capacity Building of Adaptation of Food Crop Farmers Facing Climate Change. J. of the Agro Economic Research Forum. 30 74
[5] Barkey R A, Solle M, Dassir M and Mahmud. 2016 Analysis of Vulnerability Risk Model of Bantimurung Bulusaraung National Park (Draft 1). UNHAS Research Collaboration with the Ministry of the Environment and Forestry with UNDP.
[6] Ribot, J. 2002. Democratic decentralization of natural resources: institutionalizing popular participation. Washington DC: World Resources Institute.
[7] Fisher, M. R., Moeliono, M., Mulyana, A., Yuliani, E. L., Adriadi, A., Judda, J., & Sahide, M. A. K. 2018. Assessing the new social forestry project in Indonesia: recognition, livelihood and conservation?. International Forestry Review, 20 346-361.
[8] Rahmatunnisa 2011 Decentralization and Democracy J. of Governance. 1 13
[9] Noor, M. 2012 Understanding Indonesian Desentraization (Yogyakarta : Interpena) p 221
[10] Suharjito, D. 2009 Forest Management in Indonesia: Comparison of Indonesia and the Philippines J. of JMHT. XV(3) 125
[11] Yuan S, Fuliang C, Xiaohua W, Clive W, Lei C, Dieter R P, Qing Y, and Huiqian L 2017 An Ecologically Based System for Sustainable Agroforestry in Sub-Tropical and Tropical Forests J. Forests. 8 102
[12] Brenda, L. 2011. Resilience in Agriculture through Crop Diversification: Adaptive Management for Environmental Change J. BioScience. 61 183-193
[13] Supriadi H 2014 Cultivation of Coffee Crops for Climate Change Adaptation and Mitigation J. of Perspectives, 13 35
[14] Fisher, R. J. 1999 Devolution and Decentralization of Forest Management in Asia and Pacific J. Unasyva. 50 199
[15] Trionario, 2012. Decentralization of Public Services : The Complementary Relationship Between the State Sector, Market Mechanisms, and Non-Governmental Organizations J. of TAPIs. 8