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Wood policy ambiguities, behind the phenomenon of the decreasing interest of traditional house construction in Sulawesi

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Abstract. We firstly investigate the common-sense phenomenon that why there is a tendency on the decreasing demand of traditional timber-based house (*bola ugi*) construction in South Sulawesi province Indonesia. From this start, we analyse the two policies implementation of timber logging community-based forestry policies (people forest plantation and people forests), that taken Barru district as our location study. We found that there is no direct correlation between the decreasing motives of villagers using the traditional wooden house and the policies. We further investigated the policies' implementation and found some ambiguities, including incompatibility with traditional forest plantation system within the formal timber logging community-based forestry policies. We found also a very weak facilitation and support from the government and also its connection with the market.

1. Introduction

Bola ugi, or bugis houses as described by Schefold, et al. [1] and Ismail [2] represent the wisdom and civilization of *bugis* communities in South Sulawesi. The tropical environment makes wooden houses very suitable for areas in South Sulawesi [1,2]. Based on the results of the initial observation of this study, that there was a tendency to decrease interest in building a wooden house and replace it with a stone house, especially for new couples.

We start from this common-sense phenomenon, in general, communities tend to build new house on a modern form, using stone-based housing, or there is a decreasing interest on constructing *bola ugi*. We already identified that there are two wood-based community forests policies on serving the interest of local need on building a wood-based traditional house in district level. They are people forest plantation (HTR) in the production forest (state forest area) [3], and people forest (HR) in outside state forest area or people private land area.

This trend was followed by a decline in the supply of wood from the producer side due to the scarcity of wood raw materials produced both in the official forestry sector and in the forest (informal) sector developed by the people. In another side, governments' campaign has massively campaign two community timber-based policies to support community logging for local livelihood and sustainability.

In the national level, some studies show that HTR and HR failed to answer its main goals on providing local timber wood for local communities, or these policies contain ambiguities dimension [4,5]. This article will take more into detail by firstly observing the case of decreasing motives of



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making *bola ugi* at Barru district. From this departure, we will analyze the screen behind by analyzing such community timber policies ambiguities implementation supporting livelihood in general context. To this end, this study attempts to answer the following questions:

1. What is the existing of decision making of community people on building a new house, juxtaposing wood-based house and stone-based house, in three-level landscapes such as sub-village level, village level, and sub-district level?
2. To what extent the wood-based community forests policies serving the need of the local community on harvesting local timber.

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2. Methods

2.1. Study area and context

We used Barru district as our study location due to its vital role as the essential local wood supplier in Tanah Bugis (Bugis area or South Sulawesi province). The forest area in Barru district reaches 68,556 hectares which are laid from the total land area of about 125,834 hectares. It is reported that about 90 percent of the 54 villages in Barru district, has a secure connection with the forests, and there are even some villages that are located in forests areas. Map of research area and location can be seen in Figure 1.

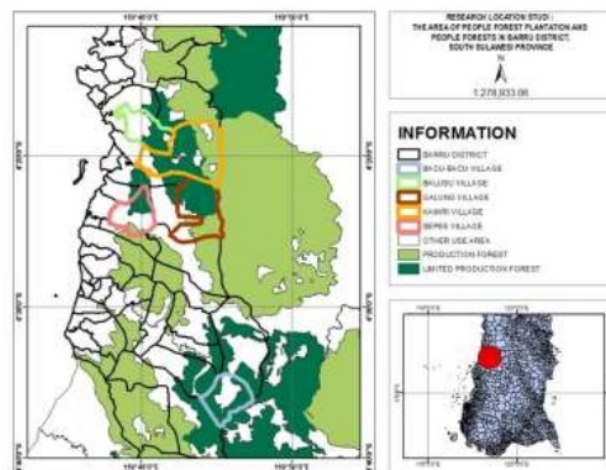


Figure 1. Map of research study location: the area of People Forest Plantation and People Forests in Barru District

However, on another side, the progress of HTR implementation is plodding, it is only 24,4% of 5.240 ha area allocation has the formal license (or 1281 ha with 136 legal license operations). Also, not all of the permit normally operated in the field [3]. One individual farmer can have 2 ha HTR. In contrast, HR is implemented by traditional forest management since the local peoples own HTR. However, it is also found that the logging policies in HR is identified as a barrier for trade and resulted in many illegal loggings in the state legal' perspectives.

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2.2. Survey sample and design

We used survey sample based to gain information on the domestic timber utilization that provided by our respondents who have HTR and HR areas in different landscape scale. We observe the HR that close to the HTR areas to make easier for comparison. Therefore, we decided to choose 5 villages

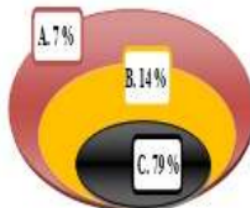
(*desa*) as our study location such as *Balusu, Kamiri, Galung, Sepee* and *Bacu-bacu*, and we interviewed 90 respondents in different scale of the rural region and several staff of local forest service agency, forest extension officers and staff of non-government organizations. This study identifies decision-making community in the last five years whether using timber for constructing a new house or making the stone-based house. We also juxtaposing HTR and HR policies implemented in the field [5], and analyzing relevant documents [6].

The character of our respondent in this study is assumed that they are all stakeholders that related to the development of HTR and HR. In addition, they are also all villagers' representatives in three different rural areas (sub-village level, village level, and sub-district level), replicating Bell's [7] method on analyzing different landscape observation. We identified the villagers who implemented both HTR and HR and observe their options on constructing a new house in recent five years. We watched their choices, whether they built timber house traditional or stone-based house construction. We also note how the HTR and HR policies influencing their options or analyzing how this policy implemented to achieve their formal goals on legal community logging. This study will also investigate several aspects of HTR and HR policies in performing in the field, such as supporting characters, policy barriers, policy supports, institutional, stakeholder supports, human resources, and forest resources. We also identified how they are making forest management, forest rehabilitation, processing aspects, marketing aspects, and institutional aspects.

3. Results and discussions

3.1. Decision making on house construction on a three-level rural scale

Based on our surveys and observations, constructing *bola ugi* is still favors to those community live in sub-village level, rather than the village and sub-district levels. People who are unable to make a wooden house from lack of funds, where house construction wood requires considerable big capital, except those who have access to timber forest products.



Remark: A for sub-district level (*kecamatan*), B for village level (*desa*), and C for sub-village (*dusun*) level

Figure 2. Community interest on building timber-based house at different regional levels

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We also observe that, construction of stone-based housing is publicly perceived that it is a prestigious home and improving the social status of the owner. This is a new trend, and it is shifted preference from the traditional wooden house to stone based housing as the modern construction perspectives, especially to those community live in sub-district (and district) areas. Some people who cannot afford to build the wood house are dominated community at village level and sub-district level. The villager's preference comparison on whether using traditional house or stone-based construction can be seen in Figure 2 and Figure 3.



Remark: A for sub-district level (*kecamatan*), B for village level (*desa*), and C for sub-village (*dusun*) level

Figure 3. Community interest on building stone-based house at different regional levels

We found that there is no direct correlation with the HTR and HR wood-based community policies implementation with this trend. In general sense, local communities did not feel or being influenced by impact and the existence of both HTR and HR policies. However, in sub-district level or in a more urban area, timber is also become difficult to get. It costly due to the transportation cost, and logging process, based on this situation, it is supporting their new trend to build stone-based house.

3.2. HTR and HR Profiles

3.2.1. HTR. Even though, community logging permits is based on the individual basis (IUPHHK-HTR), the operation management of HTR is dominantly and independently managed by farmers group. Table 1 illustrates the potential of Limited Production Forest that has already had permits attached as the Forest Product Utilization Business License (IUPHHK-HTR) of around 1376 ha. The management of HTR in this district is dived into 7 forest farmer groups (KTHs) was done groups even though permits are given to each individual in group. Each forest farmer group holds a meeting between KTH and government which is held once a month and activity was last in 2015 accompanied by forest extension and or non-government facilitators which is done by the KTHs basis approach.

These farmers groups (KTHs) has taken assistance and support from several government facilities such as forestry extension, soft loan, and capacity buildings. Barru district has the opportunity to develop plantation around 1376 ha to those HTR who have obtained permission. This individual-based permits (IUPHHK-HTR) are located in 3 sub-districts (*kecamatan*), there are *Balusu*, *Barru*, and *Pujananting* sub-districts. The number of areas of HTR in the district can be found in Table 1

Table 1. The profile of the amount areas of HTR's distribution in the study area [8]

Sub-district	Village	People forest plantation areas		
		Forest farmer group (KTH)	Total Members	Total area (hectares)
Pujananting	Bacu-Bacu	KTH Padang Pabbo	18	208
		KTH Summudae	17	178
Barru	Sepee	KTH Deae	9	66
		KTH Bolong Ringgi	23	274
Ballusu	Balusu	KTH Jempo Salo	10	87
		KTH Semangat	30	251
		KTH Coppo Barraming	28	312
Total areas			135	1376

HTR development was done increased communities around forest areas through intercropping of horticulture crop that is utilized before logging. During HTR construction there were several types of staple plants developed, it is consisting of around 70% wood forest plants, and around the 30% annual woody plants.

To govern the HTRs administration, Barru district government used regulations mostly taken from the central government guidelines. It is legal rules that were approved by the central government regarding the involvement of multiple bureaucracies and the guides on the implementation of people

plantation forests. It is identified that overall, there are 18 rules that consist of six rules issued by the regional government and 12 regulations issued by the Forestry Ministry. Recently, this HTR operation is supervised by the Ajatappareng Forest Management Unit.

3.2.2. HR. South Sulawesi has 223,428 ha of community forest and \pm 5,923.25 ha Community Forest area in Barru Regency (South Sulawesi Provincial Forestry Service, 2009) and Community forest management in South Sulawesi, especially in Barru district which has developed into community-dominated agricultural crops gardens. The development of HR business is naturally and traditionally growth and it is located in various areas in Barru district, as shown in Table 2.

In the recent legal forest land jurisdiction, Indonesian forest land is fragmented with state forests, people forests, and customary forests. People forest or HR is forests land cover that is attached with land rights ownership, and forestry ministry also give direction that it should covered around 0,25 ha [9]. HR policies imagination is that it is a bundle of soft policies regulation that aims to freely trade and give maximum benefits for villagers and increases timber productivity [10].

Table 2. The profile of the amount areas of HR's distribution in the study area [8]

Sub-district	Village	HR
		Total area (hectares)
Pujananting	Bacu-Bacu	250
	Galung	375
Barru	Sepee	250
	Balusu	375
Balusu	Kamiri	125
	Total areas	1375

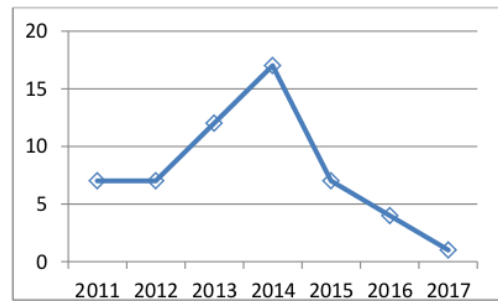
Utilization of people forests on private land of communities and some parts of land belonging to the state cell which is around 1.375 ha area using an independent scheme. The potential of community forests in Barru district is dominated by teak plants (*Tectona grandis*). In addition, there are several forestry plants managed by the community, namely Durian (*Durio zibethinus*), Kemiri (*Aleurites moluccana*), Sengon (*Albizia chinensis*) and some local wood known as *kayu rimba*. Thus, the development of HR will have an impact to the continuity of the supply of raw materials.

HR are managed independently by each individual or each household that covering the area around 0,5-3 ha [11]. The peasant farmer can plant trees with the amount determined by peasant farmer them self or the owner of the land, and in our observation that it is also used freely for building their traditional house especially those who live in sub-village and village level (see Figure 2 and Figure 3). They combine the tree crops and seasonal crops that can increase the income of the peasant farmer or they applied agroforestry models.

People forest management adheres to an independent management system, where landowners or parties managing the forests are the holders of all rules and policies relating to the processing of the woods. In the five research locations, it was found that harvesting of timber forest products could be carried out with verbal permission given by the village government to landowners or an agreement with community members and several community leaders.

3.3. Connecting community timber-based policies with the demand

The essence of wood processing industries is mainly sourced from HR Barru, which is mainly and legally distributed to wood processing industries. HTR is nothing to do with timber production at the moment. However, often Barru wood industries supply the demand outside the area, for example, Soppeng, Mamuju, Luwu, Kendari, Sinjai or Bulukumba district. We could not provide any specific data description that this wood supply is serving for local timber housing in Barru. In our observation, in the sub-village level, villagers tend to use their own timber for their own housing construction directly. Therefore the data below does not adequately describe the direct relation with the demand of bola ugi' building.



Source: Industry and trade agency in Barru, 2018

Figure 4. The amount of Industries that are active in processing wood

Timber supply at the industrial level has decreased in production over the past 8 years. It is noted that in 2011 until 2017 there are a variety of industries that process and market wood, that can be seen in Figure 4. The number of wood industries that are active in wood processing and an increase in the amount of wood production is characterized by an increase in the number of active industries. This data is illustrated from only 7 industries to 17 industries that were active in managing timber in 2012 until 2014. However, it is dramatically decreased to come only one industry exist in 2017.

3.4. Explaining ambiguity

3.4.1. The designated HTR land is not in accordance with the needs and practices of the community. This point applies to HTR implementation, where HTR to be a program that is given without a request or is not in accordance with community needs (top-down).

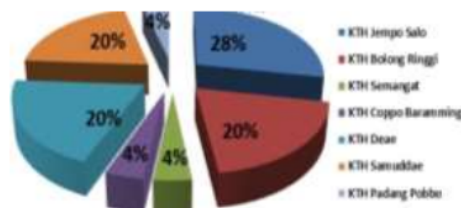


Figure 5. The percentage of access to HTRs location, based on KTHs area (forest farmer groups area)

Access to entering HTRs location area is still minimal, and there are locations where passed by bushes and has a steep topography. Figure 4 describes how the location accessibility level per KTHs basis. Figure 4 explains that HTR is far from the central population or the center of rural areas. Therefore, it needs much energy and preparation for operating forest plantation, and it is not embedded in the daily life of villagers.

The incompatibility between the basic needs of local farmers and the HTRs formulation has resulted many consequences. The easier observation is that the most of the KTHs is in active. From 7 KTHs, it is only one forest farmer group (KTH Samudae) is quite active in term of they have real activities in the field, have a group dynamic and implementing some stages of HTRs' scheme.

In addition, the policy imagination that by giving formal access to production state forest it will increase the community livelihood and tenurial security, however in the reality, HTRs area is still

treated as public resources that still faced the same challenge like illegal logging, and ungoverned resources' commodities.

Actually, some of the farmers state that HTRs allocation is far from the idealistic imagination. They perceived that they can freely to cut the trees, implementing their traditional crop system management, but in the reality, they are still required to develop formal forest management plans. Even a forestry staff agency blames villagers that after being granted access to manage forest area, local people tend to do negative things that have a negative impact on forest conditions such as illegal logging, burning the land and etc.

3.4.2. Traditional institution doesn't compatible with formal policy. One of our interviews with an HTR forest farmer of KTH Desa Kamiri stated that before the HTR program was introduced, the community had accessed and managed forest through a shifting cultivation system. It is an ideal resource management approach. This method has been developed for a long time and has been preserved for generations. The community considers a longstanding traditional way of managing the forest land rotated effectively. It is shifting cultivation of a period of around 15-35 years. They claimed that the method is a non-destructive for forest degradation. It has a fallow period to allow land utilization rotation. They also have many commodities options to be planted in the areas. Different from HTR's rules that they can only harvest the trees after HTR permits issued.

Although, the government claimed that they already spent budgets for many capacity building and campaign program of HTR implementation, the villagers are still perceived that they have low information about comprehensive policies related to HTR output. This situation is lead to their inability to predict the future of their HTR concession, for example they didn't know about time of planting, harvest duration, markets channels, and the document for harvesting the tress.

HR is much more different, it is liberalistic approach that based on the individual of land ownership. Therefore, the management is much more depend on the land owner and peasant farmers. The problem is that the HR location is owned by small local elites, the majority is the peasant farmers. The issues raised in HR is about the inequality relation between forest peasant farmer and the land owners.

3.4.3. Securing rights or only formal documents? IUPHHK HTR is successfully received attraction from the public due to its relatively easier procedure on the proposing areas comparing to the other scheme of social forestry in Indonesia. It is also directly promising 'trees' as their main products. HTR in Barru has not been able to provide their central promise on producing sustainable community timber logging. This is the primary complaint from the forest farmer. HTR Barru was started in 2008, that means that it is the time to see the forest timber harvesting, but nothing happens. It is also complicated to show the success story in other location/districts on how the HTR program achieved these logging activities.

The first barrier after a forest permit holder receiving IUPHHK-HTR permit is developing long term and short term of forest plantation management plan documents. We observe that it is very hard for the farmers comply with these rules, due to the challenge to transforming their traditional knowledge to the formal written documents, and bridging their traditional tenure management into complex forest regulation system [9].

HR is much less required formal documents especially on planning documents. HR managers have the convenience of accessing timber utilization. Permission for this operation can be obtained through permission from community members and or approved by the head of the local government. However, since the mandatory of timber verification rules [12] [13] has a consequence of small holders of HR timber harvesting and its management. It is costly and required complex support system to make it fair with both for land owners and forest peasant farmers and forest farmer groups.

4. Conclusion

In this paper, investigating the decreasing demand for traditional wooden house is only a gate or avenue to analyze how the two-timber community-based policies had ambiguities in their implementation. In sub-village level, the villagers are still favoring for *bola ugi* construction. However, the closer area to urban population (such sub district and district) areas, the community tend to build stone-based housing as the shift trend of prestigious meaning and also has indirect relation to the wood scarcity.

The HR and HTR have similarity on its basis permits, which rely on an individual base. In operation, HTR is much more formally organized under forest farmer groups. HR is much depending on the relationship between landowner and forest peasant farmer. HTR is recognized as the only direct timber community logging permits allowing individual farmer and forest farmer groups making timber logging. However, this HTR's goals have the struggle to achieve their formal goals. Traditional forest management institution did not have compatibility with official HTR policies regime. Furthermore, it is also found the weak facilitation from the government and also support from non-government actors and markets. HTR and HR are recommended to reconsider back their formal rules, especially making more simple regulation for timber harvesting and transportation.

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