Land grabbing, conflict and agrarian-environmental transformations: perspectives from East and Southeast Asia

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Land Grabbing and Deforestation: Community Perception on Forest Land Ownership in Dharmasraya District, West Sumatra, Indonesia
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Abstract

Agrarian conflict is seen as the resistance of the population without land or whose land was seized by the capitalist. But it is different in Dharmasraya West Sumatra, where an area of 33,553.96 ha of remaining production forest, former forest concessions area (HPH) which has now become secondary forest being grabbed by local people amid its official status as state forest. Secondary forest is encroached upon and burned by the community, but the grabbed land is not directly cultivated. This happens since the concession was no longer in operation. This leads to massive deforestation and reduce ecosystems maintenance function of forest. This study asks the following question; what are people perception on forests (benefits and management), what are their perception forest land ownership.

This study argue that the people grab and clear the forest land because they do not feel the benefits of environmental services generated from forest. They also perceive the forestland belong to the community and not of the state. By clearing a plot in the forest they hope to sell the cleared plot later on. Although people know the legal status of the forest is state forest, but people do not think of a land title as important proof of land ownership, small scale plantation can be practiced in the land without land title, customary right would be enough. The paper suggests that the government or agency authorized to immediately have a program that creates an incentive system that encourages people to use the land for production forests, so that the existence of their land in addition to increasing the sustainability of the economy is also improving the sustainability of ecosystems.

Key words: environmental service, community, production forest, land transaction, Minangkabau
INTRODUCTION

The relationship between human being and forests has been important for the development of society. It is based on various productive, ecological, social and cultural functions of forests (Ritter et al, 2013). More than 1.6 billion people depend on forest for food, water, fuel, medicines, traditional cultures and livelihoods. (New York Declaration, 2014). Tropical rainforest produces up to 40% of all terrestrial primary plant production and containing half of the plant and animal species, and play a vital role in safeguarding the climate by naturally sequestering carbon (Mauro, 2011). Yet, each year an average of 13 million hectares of forest disappear, an area roughly equivalent to the size of Greece – of the world’s forests are cut down and converted to other land uses every year (FAO, 2010). The conversion of forests for the production of commodities—such as soy, palm oil, beef and paper—accounts for roughly half of global deforestation (New York Declaration, 2014).

Attention and interest in the world of the forest increased, especially because of climate change and increasing demand for agricultural land, there is a concern for large-scale land grabbing (Larson, 2012). Furthermore, Larson explained that land grabbing can be driven by the interests of the agricultural sector to include minerals, carbon rights, or conservation of bio-fuels, which requires attention to tenure and possible seizure of forests and forest rights.

The existence of this land grab is not something new. But the last few years developing land grabbing term which simply triggered discourse world food crisis (Pujiriyani, 2014). The term expropriation of land or land grabbing first appeared in 2008. A report released in 2008 by the NGO GRAIN1 was perhaps the first to declare a global trend in land grabbing linked to ramped-up biofuels promotion and food-for-export initiatives (GRAIN 2008). Soon, other civil society groups, of which the FoodFirst Information and Action Network (FIAN) deserves special mention, and media outlets offered additional critical accounts. In April 2009, the International Food Policy Research Institute (IFPRI), a member of the CGIAR (Consultative Group on International Agricultural Research) and based in Washington, DC, reported that, since 2006, 15–20 million hectares of farmland in developing countries had been sold or leased, or were under negotiation for sale or lease, to foreign entities. Their report identified cases mostly in Africa (Borras & Franco, 2012).

Since that time, the world's attention on the land grab is increasing both among activists, non-activists, and the media and policy makers (Borras and Franco, 2011). In the literature on land grabbing, land seizures initially focused on the needs of a large area to meet security of food supply (food security) (Pubaya et al. 2014). According to Savitri (2011), land grabbing mechanism begins with building the image and perception of crisis-round, especially food and energy crisis. Discourse of the global food crisis has become a strong argument for increased investment in food production. It can also be seen from the definition of Daniel (2011) which defines land grab as “the purchase or long term lease of vast tracts of land from mostly poor, developing countries by wealthier, food-insecure nations as well as private entities to produce food for export”.

During its development, the causes of land grabbing is not only the food crisis. Borras (2012) provides a conceptual framework of what is meant by the current land grab. Borras explained that land grabbing is “the capturing of control of relatively vast tracts of land and other natural resources through a variety of mechanisms and forms that involve large-scale capital that often shifts resource use orientation into extractive character, whether for international or domestic purposes, as capital’s response to the convergence of food, energy and financial crises, climate change mitigation imperatives, and demands for resources from newer hubs of global capital.”

1 GRAIN is an international non-profit organization that works to support small farmers groups and social movements in their struggle to gain control of community and diversity-based food systems. Most work GRAIN oriented to and conducted in Africa, Asia and Latin America
Land grabbing is the contentious issue of large-scale land acquisitions: the buying or leasing of large pieces of land in developing countries, by domestic and transnational companies, governments, and individuals (Borras, et al 2011). White & Julia (2012) defines land grabbing as a broad-scale acquisition of the land, rights related to land and soil resources by corporations (institutions, business-profit, and public institutions). The same thing happened in Indonesia.

In Indonesia, the land ownership issue is very complicated, one aspect of this complexity is the inconsistency between de jure or legal rights and customary claims or land use and management. Marxist theory states that agrarian conflicts occur due to the development of the capitalist economy which causes people thrown out of their land. Agrarian conflict is seen as the resistance of the population without land or whose land was seized by the capitalist. But it is different in Dharmasraya District of West Sumatra, especially in the area of Production Forest Management Unit (KPHP) Dharmasraya area of 33,553.96 ha, former forest concessions (HPH), which now should be a secondary forest has been taken over by the community and makes plantation with reclaiming land as their traditional lands.

In the administration of the land is state-owned forest land, but in general, many people recognize it as communal land, so when there is right to cultivate and use rights are exploited by investors/other community, must be approved by the holders of customary rights over the local leader known as “Datuk”. As the legal pluralisme theory, which sees the agrarian conflicts are the result of more than one contradictory laws used by several parties, such as customary law and state law. State law would give the state the power to delegitimize the rights of local communities. While local communities to use the power of customary law to legitimize their rights over a plot of land (Benda -Beckmann & Benda -Beckmann, 1999)

Former state forest concessions secondary forest to be rehabilitated has been cleared and burned by the people not utilized, only to signify that the existing land owners, eventually this land is for sale. This happens since the concession was no longer in operation, so that the land grab by the state. When the government and the authorities are weak, community groups applying principles, norms, rules and practices of their own and selectively adhere to or override the state law. For example in Chaggaland, Tanzania, villagers did not heed reform efforts to change the land use rights of individual property be owned by the government and still distribute land rights based on local custom (Moore, 1973).

Encroachment by local people, and turned into plantations cause forest degradation and deforestation. The consequences of these changes, seen both on-site and off-site, include the following: on-site reductions in landscape productivity because of increasing losses of nutrients and soil; downstream impacts, such as reductions in water quality through increased sedimentation and changes in water yield; and widespread reductions in biodiversity and the supply of various ecological goods and services (Vitousek et al. (1997) and Tilman et al. (2001).

In some cases the effects of a loss of forest cover (e.g. erosion) are almost immediate. Other changes (e.g. salinisation, biodiversity loss) take a long time to become evident. The cumulative effects of the release of carbon once sequestered in biomass and soil organic matter are likely to contribute to long-term changes in the global climate (Lamb, 2003).

Forest damage can not be separated from the community perception of the forest itself. In particular, the theory has been asserted that the representation of the behavior and perception are closely related to each other (Ferguson et al, 2004), so that stem from the perception (knowledge), large influence on the form of the human relationship with the behavior of the surrounding environment (Ellen, 1993).

Winardi (1992: 42) argues that the concept of perception is a cognitive process, in which an individual gives meaning to the environment. The perception of the environment affects the individual's relationship with the environment. According to Walgito (2004), individual attitudes towards the environment can be either (1) Individuals refusing environment, i.e. when the individual is
not in accordance with the state of the environment (2) Individuals receiving environment, i.e. when the state of the environment suited to individual circumstances (3) Individuals are neutral or status quo, if the individual does not receive compatibility with the environment, but in this case the individual does not take steps further: how should behave.

Werner and James (1992) suggested that the perception is "complex process by which people select, organize and interpret sensory stimulation into meaningful and coherent picture of the world". Gibson et al (1997) provides a definition of perception is a cognitive process that is used by individuals to interpret and understand the world around it (the object). Gibson also explained that the perception is the process of giving meaning to the environment by the individual. Therefore, each individual gives meaning to stimuli differently, even though the same object. The way people look at the situation is often more important than the situation itself. Thus, understanding the level of public perceptions of forest resources / land will assist the formulation of policies and programs for forest management in the region (Singha, 2013).

This study asks the following question; what are people perception on forests (benefits and management), what are their perception on forest land ownership. The paper argues that when forest is perceives as agricultural land expansion, people value forest land lower than agricultural land and tend to convert the land into cultivation. They do so because they perceive the land as their communal land. Hence, grabbing state land by local people accelerate deforestation.

METHODS AND MATERIALS

The research was conducted from January and February 2015 in the site of Dharmasraya Production Forest Management Unit (KPHP). The site is 33,553.96 ha forest land consists of permanent production forest and production forest (HPT), especially in Nagari Bonjol. The site selection was based on considerations that Nagari Bonjol is the village where most of its area overlaps with Production Forest Management Unit (KPHP) of Dharmasraya.

The study employed varieties of data collection techniques. i.e. observation, historical data, secondary and documentary data, key informant interview and household survey. Observation techniques does not only measure the attitudes of respondents but also can be used to record a variety of phenomena that occur (situation, condition) (Sekaran, 2006). Household sampling technique used purposive sampling technique that sampling was done by a particular purpose. Number of household population in the site was 572, 512 households are farming household (in this study means associated with the presence of forest and land ownership). The number of household sample drawn was determined by using Slovin formula (Sevilla et al., 2007), so that the number of samples obtained by 41 respondents.

The study also employed interviews with several stakeholders (key informant) related to research topics, namely: The District Forest Service / KPHP Dharmasraya, community leaders such as village trustee, clan leaders (Datuak / niniak mamak), and community forest users are found in the field during the field observation.

Information captured include education and social characteristics of the community. Public perception views of several variables: knowledge, benefits and causes of deforestation and land ownership by the community and its use.

To get an idea of the public perception of the forest and land ownership qualitative descriptive analysis was used, according to a study objectives. Descriptive analysis meant that describe people's perceptions about the existence of the forest (the benefits and management), and perceptions regarding land ownership, while the qualitative approach is needed to supplement the information in understanding social phenomena based on the field data.
RESULT AND DISCUSSION

Study Area

For Dharmasraya district of assessment of land cover using remote sensing technology through Landsat 7 ETM + satellite image, data and information that could be classified actual for the current land cover conditions. Forest cover in Dharmasraya has lost as many as 13,721 ha within last decade. In 1994 the forest cover was still there 94,645.9 ha or approximately 31.5 percent and in 2005 to 80,924.9 ha or approximately 27.8 percent (Warsi, 2006). In 2007 decreased to 75,238.44 ha and in 2012 become 55,728.64 ha (BPS Dharmasraya, 2013). This sharp change due to land conversion to plantations, settlement and resettlement areas and also illegal logging. However, the most numerous changes function of the area to oil palm plantations. In 2005 the palm oil plantations in Dharmasraya reaches 93,030.69 ha or about 32.05 percent of the district area Dharmasraya. Previously in 1994 it was only 24,719.9 hectares of oil palm plantations or 8.24 per cent (Warsi, 2006). It increased sharply in 2012 and reached 126,868.20 ha (BPS Dharmasraya, 2013).

Especially for the area of KPHP Dharmasraya, Biogeophysic report of Inventory of KPHP Model Dharmasraya 2013 mentions forest on KPHP unit area in the District Dharmasraya Dharmasraya model is a type of dry land forest with wet tropical rain forest type is the corrugated region similar to other tropical forests in Indonesia (RPHJP KPHP Dharmasraya, 2014). The following conditions and Land Cover The size of the area KPHP Dharmasraya model.

Table 1. Land Cover of KPHP Model Dharmasraya forest area

<table>
<thead>
<tr>
<th>No</th>
<th>Land Cover Classification</th>
<th>Area (ha)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Secondary Forest</td>
<td>9,903.94</td>
<td>29.52%</td>
</tr>
<tr>
<td>2</td>
<td>Dryland forest plants</td>
<td>219.36</td>
<td>0.65%</td>
</tr>
<tr>
<td>3</td>
<td>Shrubs</td>
<td>4,693.75</td>
<td>13.99%</td>
</tr>
<tr>
<td>4</td>
<td>Plantations</td>
<td>10,311.61</td>
<td>30.74%</td>
</tr>
<tr>
<td>5</td>
<td>Open land</td>
<td>5,908.75</td>
<td>17.61%</td>
</tr>
<tr>
<td>6</td>
<td>mixed dryland Agriculture</td>
<td>2,427.81</td>
<td>7.24%</td>
</tr>
<tr>
<td>7</td>
<td>Dry agriculture</td>
<td>784.78</td>
<td>0.25%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>33,550.00</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Source: BPKH I Medan, biophysical inventory Regional Implementation Model KPHP Dharmasraya 2013.

As shown in Table 1, most, or more than 2/3 of the forest area has been used as a small holder plantation. Bonjol village is one of the village in the sub-district of the Koto Besar. Bonjol has an area of 200 km². Adminsitrative area of Nagari Bonjol is devided into 4 sub-village, namely Jorong Tuo, Jorong Baru, Jorong Pasir Mayang, Jorong Sungai Likian. Bonjol landscape is a flat hilly areas and varying degree of slope.

Land use in Bonjol form of settlements, plantations, rice fields, irrigation. Main utilization of farm land is plantation (82%), while the smallest land is irrigated land around 2%. Too small area of irrigated land is thought to lead to low community value for environmental services from forests. For the status of land ownership in Nagari Bonjol in general is communal land (land belonging to a clan) the use of land should be discussed at the local Indigenous stakeholders.
Fig 1. Location KPHP Dharmasraya West Sumatra Province (Region recognized by the community as communal land)

**Respondents**

The education level of respondents most respondents did not complete primary school (82.9%) and completed primary school (17.1%). So it can be concluded that the Nagari Bonjol still low in human resources. Respondents also consists of several clan, most clan are Melayu (43.9%), Melayu clan customary in Nagari Bonjol ruler, then there Piliang (41.5%), Chaniago (4.9%), Talao (4.9%), and the smallest is Koto Tinggi and Patopang (2.4%). Usually the last few were late comer to the village, so its presence is very little in Nagari Bonjol.

**Perception of Forest Existence**

With increasing forest encroachment it becomes important to study people perception on the forest existence. In particular, theorists have asserted that the behavioral and perceptual representations are closely interconnected in memory (Bargh, 2003). On the assumption that behavioral responses are mentally represented and associated with perceptual representations, behavioral responses might be among the forms of knowledge that are automatically activated in response to perceiving a social stimulus (Ferguson et al, 2004).

Public perceptions of forest functions greatly affect their behavior in order to preserve the forest. Perception is an internal process that allows one to choose, organize, and interpret stimuli from the environment, and the process will affect a person's behavior (Triyanto, 2009). Perception is the organization, identification, and interpretation of sensory information in order to Represent and understand the environment (Schacter, 2011).

People's perceptions on existence forests in Nagari Bonjol, respondents stated that the forest is still exist (89% of respondents) but its location has been far away from the villages around 2-3 hours of travel by motor bike because their village that was once forests land have been turned into plantations and 11.9% of respondents believe that there is no more forests in Nagari Bonjol. Respondents stated it is unimportant (100%) to preserve the forest as unfavorable, they prefer to convert forest into plantation so that they are more beneficial to the economy.

Regarding the availability of land to be opened according to the respondents of diminishing land /
forest will be opened (100%), because of the competition plus a system of land selling not only for locals but also for outsiders so that more and more competitors. People who have the capital will have a larger area, while poor people may not have the land because there is no capital to clear forest land. Carolina (2010) stated wave of global investment has made land as hunting targets to maximize profits. Land is synonymous with money, while money is synonymous with power, more land means more money, and more money means more power and more land.

Encroachment into forest land has a very serious problem, especially in the forest area where land use competition is high. Although a farmer just opened a little land for shifting cultivation system, but the impact will be very damaging to natural forests when the population of farmers is high (Scotland 2000).

Perception Forest Benefit for Societies

All respondents imply that the benefits of forests land is for cultivation timber extraction (100%). Only few respondents who feel the benefits generated for environmental services of forests as a regulator of water and flooding prevention systems (26.8%).

According Gaspersz (1997) perception formation begins with the observation that through the process of relationship see, hear, touch, feel, and accept something then someone selecting, organizing, and interpreting the information it receives into a meaningful picture. The occurrence of these observations are influenced by past experiences and attitudes of individuals. Perceptions are influenced by individual experiences in the past, which in the context of this study past experiences affect their perception of respondents about the function of the forest is life experience of Bonjol community who live around the forest. Everyday people who live in the forest area is part of the pulse of activity taking place in this region. They automatically see what happens in the environment and consciously or not what they saw and experienced in everyday life that will shape their perceptions of forest functions. For them forest land is cultivable land for plantations. Community experience in the forest that had been managed by the timber did not benefit the community, the community believes former timber concession only took timber, so that when there is an opportunity to take over the concession area, communities turn forests land into plantations.

Their perceptions of the benefits of forests tend to be economic benefits from conversion of forests into plantations. When the economy is good and cause them trouble the water, they can think to buy water. Society tends to be shorter thought not to think about the cost of losses incurred due to the conversion of forests into plantations. Today, the estate is an important source of income to meet the economic needs of families in Nagari Bonjol.

Table 2. Perception Forest Benefit to Society

<table>
<thead>
<tr>
<th>Forest functions</th>
<th>Benefit</th>
<th>Yes</th>
<th>Percent (%)</th>
<th>No</th>
<th>Percent (%)</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Produce wood</td>
<td></td>
<td>41</td>
<td>100%</td>
<td>0</td>
<td>0</td>
<td>100%</td>
</tr>
<tr>
<td>Regulatory system of water and prevent flooding</td>
<td></td>
<td>11</td>
<td>26,8%</td>
<td>30</td>
<td>73,2%</td>
<td>100%</td>
</tr>
<tr>
<td>Plantation</td>
<td></td>
<td>41</td>
<td>100%</td>
<td>0</td>
<td>0</td>
<td>100%</td>
</tr>
</tbody>
</table>

Public Perception on Forest Management

Forest management policy in Indonesia at the highest level (legislation) has been regulated in Law No 41 Year 1999 on Forestry. The legal basis for the emergence of various laws that govern the forest (Umar, 2009). Furthermore Umar (2009) suggests the problem is, to lead to the implementation of the
law following its implementing regulations, should each development actors (stakeholders) including the public knowledge and understand the rules mentioned before participated in accordance with its rights and obligations in the implementation of these regulations. Thus, in the context of this study, the perception (knowledge) community forest management has been important to be explored.

Table 3 Public Perception on Forest Management

<table>
<thead>
<tr>
<th>Perceptions on forest management</th>
<th>Frequency</th>
<th>Percent (100%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Good</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Good</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Not good</td>
<td>15</td>
<td>36.4%</td>
</tr>
<tr>
<td>Bad</td>
<td>26</td>
<td>63.4%</td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
<td>100%</td>
</tr>
</tbody>
</table>

Public perception of forest management in Nagari Bonjol that forest management here is not good (36.4%) and bad (62.4%), due to the forest in this region largely been turned into plantations. Forest management in Bonjol according to respondents conducted by the public, but is controlled by the ruling Melayu clan. So that people of other clan who want to manage forests must ask permission to customary authorities.

Land clearing activities (land clearing) has occurred and will continue to occur throughout the human life on earth and did not stop until there is no more land to be opened (Onrizal, 2005). It also happens in Dharmasraya where local community clear forest land with slash and burn techniques. Slash and burn techniques (slash-and-burn) is a common method and has long been applied in land clearing (Onrizal, 2005). The main reason farmers use slash-and-burn techniques because it is cheaper, faster and more convenient compared to the non-burning techniques. This forest fires monitored by NOAA satellites and recorded by the Provincial Forestry Office of West Sumatra. For example, the number of forest fires in the month October-December 2014 are shown in Table 5.

Table 4. Total Hotspots Point West Sumatra October-December 2014

<table>
<thead>
<tr>
<th>LAT</th>
<th>LON</th>
<th>SATELLITE</th>
<th>DATE</th>
<th>Regency_City</th>
<th>MONTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>-0.903</td>
<td>101.687</td>
<td>NOAA18</td>
<td>20141007</td>
<td>DHARMASRAYA</td>
<td>October</td>
</tr>
<tr>
<td>-0.95</td>
<td>101.68</td>
<td>NOAA18</td>
<td>20141007</td>
<td>DHARMASRAYA</td>
<td>October</td>
</tr>
<tr>
<td>-0.494</td>
<td>100.960</td>
<td>NOAA18</td>
<td>20141011</td>
<td>SIJUNJUNG</td>
<td>October</td>
</tr>
<tr>
<td>-1.360</td>
<td>101.395</td>
<td>NOAA18</td>
<td>20141015</td>
<td>SOLOK SELATAN</td>
<td>October</td>
</tr>
<tr>
<td>0.460</td>
<td>99.980</td>
<td>NOAA18</td>
<td>20141016</td>
<td>PASAMAN BARAT</td>
<td>October</td>
</tr>
<tr>
<td>-0.045</td>
<td>100.600</td>
<td>NOAA18</td>
<td>20141017</td>
<td>LIMAPULUHKOTO</td>
<td>October</td>
</tr>
<tr>
<td>-1.160</td>
<td>101.390</td>
<td>NOAA18</td>
<td>20141017</td>
<td>SOLOK SELATAN</td>
<td>October</td>
</tr>
<tr>
<td>-1.6000</td>
<td>99.0900</td>
<td>NOAA18</td>
<td>20141018</td>
<td>KEP. MENTAWAI</td>
<td>October</td>
</tr>
<tr>
<td>-1.220</td>
<td>101.710</td>
<td>NOAA18</td>
<td>20141024</td>
<td>DHARMASRAYA</td>
<td>October</td>
</tr>
<tr>
<td>-0.890</td>
<td>101.615</td>
<td>NOAA18</td>
<td>20141025</td>
<td>DHARMASRAYA</td>
<td>October</td>
</tr>
<tr>
<td>-1.150</td>
<td>101.490</td>
<td>NOAA18</td>
<td>20141103</td>
<td>DHARMASRAYA</td>
<td>November</td>
</tr>
<tr>
<td>-0.070</td>
<td>100.370</td>
<td>NOAA18</td>
<td>20141121</td>
<td>LIMAPULUHKOTO</td>
<td>November</td>
</tr>
<tr>
<td>-0.070</td>
<td>100.370</td>
<td>NOAA18</td>
<td>20141121</td>
<td>LIMAPULUHKOTO</td>
<td>November</td>
</tr>
<tr>
<td>-0.9</td>
<td>101.64</td>
<td>NOAA18</td>
<td>20141206</td>
<td>DHARMASRAYA</td>
<td>December</td>
</tr>
<tr>
<td>-0.88</td>
<td>101.69</td>
<td>NOAA18</td>
<td>20141207</td>
<td>DHARMASRAYA</td>
<td>December</td>
</tr>
<tr>
<td>-0.84</td>
<td>101.61</td>
<td>NOAA18</td>
<td>20141208</td>
<td>DHARMASRAYA</td>
<td>December</td>
</tr>
</tbody>
</table>
As shown in the above table that the forest fires occur each month in Dharmasraya. Van Noordwijk et al (2001) explains that the slash-and-burn is commonly used in shifting cultivation (swidden agriculture or shifting cultivation) and for the conversion of natural forests to plantation crops, such as rubber (*Hevea brasiliensis*) and oil palm. This technique is also used to convert the logged over to plantations (palm oil), industrial tree plantations, or resettlement. Tree crop planted in the study area are rubber (*Hevea brasiliensis*) and oil palm. Two commodities became icons in Nagari Bonjol².

There are several factors that support the forest encroachment. As reported in the previous section, the geographic distance between the village and the forest area was far enough. Therefore, it needs the media access to reach the forest. Access road to the forest is pretty wide open. The road to the forest is a former timber concession road. So it is not difficult to reach the forest, only now the course has started a lot of punch, but it does not become a barrier for people to cultivate the land. Private palm plantation road connect between the village and the forest. A bridge is currently being constructed in Nagari Bonjol to further facilitate access to the plantation and to make marketing process easier. According to Fu (2010) forest roads can cause severe environmental impacts including road surface erosion and sediment, water pollution off-site (Cornish, 2001), direct loss of habitat (by conversion of land cover) (Geneletti, 2003). One other negative impacts of road construction is the loss of forest area (Caliskan, 2013). Besides easy access to the community also makes it easy to reach the forest land. This is the effect that arises then, because of the easy access. Minarsih et al (2013) stated that in Africa, 75% of the land conversion by small farmers is due to the opening of the forest after the entry into the access road.

Bonjol villagers' perceptions about the benefits of forests and forest management of people affected by several factors, including the relatively low public education is mostly not completed primary school (82.9%). This affects the public acceptance of information so limited insight into their knowledge and lack of guidance from local forestry extension in understanding the context of the existence of the forest. Existing knowledge obtained from generation to generation, in particular with regard to the forest. All respondents (100%) are farmers so that they are highly dependent on land. On the other hand they do not have a rice field, only concentrated on the plantation. Based on interviews with key informant stated that in Nagari Bonjol it is difficult to change a person who familiar with the thinking of rubber plantation to the rice field, and it becomes an obstacle. Because the people in Bonjol unusual to work in rice fields. Besides their knowledge of rice fields were still relatively low. Environmental services of forests will only be felt when they use water for agricultural purposes.

Government programs in terms of forest management in Nagari Bonjol was minimal, although there Inhutani the plant Meranti (*Shorea leprosula*) but based on interviews and field observations, the planted Meranti been felled by the community. But until now there has been no firm action from the government. This resulted in diminishing forests.

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² Syaufina (2002) explains that in the process of forest fuel combustion, the carbon produced in the form of carbon dioxide of about 90%, about 9.5% carbon monoxide, while the rest consists of hydrocarbons, particulate materials and other materials. Thus, biomass burning events such as occurs in fire / burning of forests and land plays an important role in contributing to emissions of greenhouse gases will cause global warming.
Public Perception on Forest Land Tenure

Land Ownership System

In Minangkabau society, according to Benda-Beckmann (2000), the land of inheritance is called inheritance, is divided into two, namely inheritance low (property income) as a heritage property but not earned by the business itself, for example through the opening of agricultural land, trading profits and result of hard work and high inheritance which is land owned jointly by a clan, the right point in the hands of women and inherited a matrilineal (matrilineal) (Kato, 1982). Male only responsible for maintaining high inheritance, while setting the utilization governed by Datuk (Beckmann, 1979).

Dharmasraya in general and in Nagari Bonjol in particular in fact still practices local customary law as basis of land ownership. Communal land is inheritance and its resources that exist on it and in it is obtained from one generation to the rights of indigenous people in the province of West Sumatra (Regulation No. 16 of 2008). Beckmann (1979) stated that the treasures owned by any group within a clan, has been passed down through several generations. Certainty of land rights applicable land rights for generations is adhered to the Ranji (genealogical) (Kato, 1982). These treasures are not transferable except held-mortgaged which tend to be social rather than economic (Anwar & Chaidir, 1997).

Community perceptions regarding land ownership in Dharmasraya, especially Nagari Bonjol is clan land, the most dominant/ruling has communal land are the Melayu Clan. Land is freely available for Melayu clan member. There also Melayu clan land used by another clan members, which means that the land has been donated by niniak mamak Melayu to them. There was also a party to the other clan, through certain requirements, no such thing as rent, contract/no contract planted age-old plants and the last one there to buy the communal authorities or the landless.

For people who have tribal land or inheritance assume that their land will be utilized in the future onwards. They are not too concerned about the land certificate issued by the state. There were some respondents who have a land title, but most do not have the land title even they also do not have a letter of recognition from the clan leaders (alas hak).

Land owned by the respondent are scattered plot, where each plot sometimes have different land status. The following Table shows land tenure in the research site.

<table>
<thead>
<tr>
<th>Ownership status</th>
<th>Frequency (respondents)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land with a title deed</td>
<td>2</td>
<td>4.9</td>
</tr>
<tr>
<td><em>Alas Hak</em> (traditional land deed)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Without traditional land deed (<em>Alas Hak</em>)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>No land title nor <em>Alas Hak</em></td>
<td>30</td>
<td>73.2</td>
</tr>
<tr>
<td>land deed but no traditional land deed (<em>Alas Hak</em>)</td>
<td>4</td>
<td>9.7</td>
</tr>
<tr>
<td><em>Traditional land deed</em> (<em>Alas Hak</em>) has no certificate and <em>Alas Hak</em></td>
<td>2</td>
<td>4.9</td>
</tr>
<tr>
<td>Got a certificate, <em>Alas Hak</em>, and there is land that has no certificate and <em>Alas Hak</em></td>
<td>3</td>
<td>7.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>41</td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

For the people who buy land in forest areas is usually used as a sign of ownership rights pedestal lawful customs or *Alas Hak*. Alas hak issued by the communal authorities, which are known by all the communal land Ranji and signed by niniak mamak, Chairman Adat (*Kerapatan Adat Nagari* (KAN)) and village trustee (*Wali Nagari*). Because the majority of the Melayu respondents they do not require the *alas hak* of clan leader.
According to the Minangkabau, communal land should not be traded (Anwar & Chaidir, 1997), but differ in Dharmasraya especially in Bonjol customary rulers can sell communal land. One of the strongest ruler called "BK". Everyone recognizes his control over communal land in Dharmasraya, Bonjol particular. Ngakan (2006) stated that the state of the forest resource wealth is abundant and can meet the needs of the people whenever they need cause there is a tendency that the natural environment such as this fosters thinking pattern of quick cash in the community (communal authorities). Abundant natural resources tends to make people a little relaxed and lazy because living is taken and sold (Auty, 1993).

Table 6. Size of small holder plantation area

<table>
<thead>
<tr>
<th>Area (Ha)</th>
<th>Frekuensi</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0,5 - 2</td>
<td>23</td>
<td>56,1</td>
</tr>
<tr>
<td>2,1 – 4</td>
<td>5</td>
<td>12,2</td>
</tr>
<tr>
<td>4,1- 6</td>
<td>6</td>
<td>14,6</td>
</tr>
<tr>
<td>&gt;6</td>
<td>7</td>
<td>17,1</td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 7. Average Size Tenure Based Tribe

<table>
<thead>
<tr>
<th>Tribe (Suku)</th>
<th>Mean (Ha)</th>
<th>Frequency (respondents)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chaniago</td>
<td>1.0000</td>
<td>2</td>
</tr>
<tr>
<td>Koto Tinggi</td>
<td>1.5000</td>
<td>1</td>
</tr>
<tr>
<td>Melayu</td>
<td>8.6833</td>
<td>18</td>
</tr>
<tr>
<td>Patopang</td>
<td>5.0000</td>
<td>1</td>
</tr>
<tr>
<td>Piliang</td>
<td>3.6765</td>
<td>17</td>
</tr>
<tr>
<td>Talao</td>
<td>3.0000</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>5.6902</td>
<td>41</td>
</tr>
</tbody>
</table>

Shown in Table 6, the majority of respondents have 0.5-2 ha land area is 56.1%, and not a few who have ample land over 6 ha i.e. 17.1%. If seen an average area of land ownership by the tribe can be seen in Table 7 that the average area of the Melayu clan member majority ownership, because in Nagari Bonjol a communal land of the Melayu. Based on interviews, public lands are located on the location with the name of the following areas: Borang, Sungai Pirang, Sungai Kanji, Muaro Likian, Pokan Akat, Sungai Kayu Aro, Mudik Siek, sekitar PT.SMP, Sungai Kurukuik, Sungai Kayu Aro, Bulangan, Mudik PT Brantas, Hulu Tinggi, Sungai Duo, Pasir Mayang, Sungai Gundul, Rimbo Gapuang, Gelaga Godang. Plantation in the forest area with the name Bulangan area.

For most people the main purpose of farmers interested in plantations and open land are economic reasons as to increase savings, but there are also aiming to raise capital by way of clearing land for example, open area of 10 ha and 5 ha sold to serve as the capital of the remaining land. Plantation development is strongly influenced by the motivation of farmers which has been dominated by economic motivation to survive and increase family income.

Therefore, the need to increase human resource capacity. Efforts to create human resources with high productivity and power of innovation capability sufficient to be synergy between the economic benefits do not overlook the benefits of environmental services generated by forests.

Land Seizure Triggers Followed By Agrarian Structure Change

In many cases of land grabbing that have so far tended communal land thus depriving the state of
indigenous peoples to be oppressed (Pujiriyani., 2014). Marx and Angels in the work of the communist manifesto calling the state as an organized force of a class to perform the oppression of another class (proletariatasisi) (Syahril, 2014). But it is different in the District Dharmasraya. The community forest for the communal land had previously given permission concession. In the administration of this forest is a forest country where around 1972 formerly forested areas this is a concession granted to PT HPH Ragusa of ± 66,000 ha. Permission concession of PT. Ragusa Ltd. forced revoked due to lack of performance of companies in managing their concession so that the rights of ex-HPH processing is taken over by state company Inhutani Ltd. However, the existence of a long lag between the transition PT. Ragusa and Inhutani lead into no man's land. While this void indigenous peoples began to fight. Communities reclaim their traditional lands and open forests into plantations. Coupled with the lack of supervision of the government, the community simplyvying for open land. Since then customary claims to be strong.

After the expiration of this concession in 2002, most of this concession area became convertible production forest and has given his concession to the private estates of three companies, namely PT Incasi Raya, PT Selago Makmur Plantation and PT AWB a multinational private company. The third concession cultivate palm trees. Remaining concession of PT. Ragusa is then given to three permit holders, namely PT. Inhutani, PT. Dara Silva, and PT.Bukit Raya Mudisa (BRM) (RPHJP KPHP Dharmasraya, 2014).

But on the ground this permit use does not run properly. There is no meaningful activities that have been implemented licensees. The rise of the occupation by the community complicate the licensee conduct. If the licensee wants to perform management activities, customs authorities requesting restitution of land at a price of between IDR 5-10 million per hectare depending on the condition of the land to be freed from occupation by the community. This dispute about who has the right to lease, work, process and determine the extension of the lease with the plantation. On the one hand there are people who uphold the principles of indigenous customary rights, on the other hand planters feel entitled to control the land because they have made a lease contract and receive concessions from the ruler of the land (government) which is considered as the rightful owners (Beckmann, 1979).

For farmers whose lands are included in the concession area of oil palm plantations, the company implemented a program of nucleus estate smallholding plantation (PIR) - where the company prepare 2 ha plot of oil palm planted for every family and the company buy the harvest at a predetermined price. Company as the nucleus the community as a plasma.

Based on observations and key informant information not only indigenous people that open forests, but also the competent authorities involved in clearing forest land for plantation, administration officials usually buy land to the communal authorities, thus adding to the courage of people to open land. With so many government officials open public land here so local people has no fear of clearing state forest land to clear the forest. On the issue of land laundering, purchase of private land into one of the triggers massive land grabbing, because when land becomes private property, landowners can immediately shift their lands when the agreement between the two parties has occurred. These examples occur in many countries of Latin America. Certification of land in Guatemala, Argentina, and Brazil, making widespread land grabbing (Pujiriyani, 2014). Other examples of the participation of government officials in deforestation as Bosawas National Park, Nicaragua (Kaimowitz et al, 2003), northern Sumatra (McCarthy, 2000) and East Kalimantan (Obidzinski, 2004), local political leaders openly set logging considered illegal (Moeliono et al, 2009).

CONCLUSION AND RECOMMENDATION

Resistance of indigenous peoples to land grabbing indicated by the return of land expropriation, but the
pattern of utilization of the land taken by society triggering deforestation. It is influenced by public perceptions of forests. Public perception of the existence of the forest (benefits and management) are limited to the economic benefits and that forest management is not good here because most of the forest has been turned into plantations. For the people, the forest is only defined as land that can only be used for plantations. Society does not feel the other benefits of the forest such as environmental services. In addition, although the public know the legal status of the forest is state forest, but people still assume that land is their ancestral land, so that people do not think of land certificates issued by the state, and consider it unimportant, but still able to cultivate.

Interestingly here, while in other parts of the world indigenous people maintain the sustainability of forests and prevent outside interference, in Dharmsraya local people tends to clea forest land. The success of the community reoccupied their communal land does not make indigenous peoples fully manage the land in proper way, for the recognition of customary authorities the power over indigenous forests abused by selling indigenous land for investors converted into plantations. With this motivation led to the rise of land clearing and triggers deforestation. This means that the recognition of customary land does not guarantee the welfare of the indigenous peoples when the power of the communal land fall on people who can not preserve the communal land.

This paper offers a solution for the government or authorized institutions have programs that can immediately synergy between economic and environmental functions of forests. The system creates incentives to encourage people to use the land for planting forests, so that the existence of their land in addition to improving the economic sustainability also increase sustainability ecosystems.

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