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### The Local Customary Institutions Based on Indigenous Dalihan Tolu Promoting Tree Planting in South Tapanuli, North Sumatra

Tri Martial and Mhd. Asaad

*Agriculture Faculty, Islamic University of North Sumatra, Jl. Karya Bhakti No. 34 Medan, E-mail: trimartial@uisu.ac.id*

**Abstract:** Planting trees as land and environmental preservation efforts often fail after no mechanism for sustainable management. Sustainability efforts in tree management requires the involvement of the local community, in this case needs a system of rules in an effort to preserve the natural resources, especially land and trees. This paper aims to observe various forms of local institutions and their role in maintaining natural resources, especially in South Tapanuli. Institution is barrier derived to direct or guide the interaction between people, facilitate coordination among members in to obtaining their respective properly. Local institutions in South Tapanuli largely middle institutions that play a collective action role, rather than facilitate its member's interests to gain a better life. The roles of these institutions in the management of land and trees resources are minimal.

**Keywords:** Local Institutions, soil, trees, a system of rules, South Tapanuli

#### I. INTRODUCTION

##### Background and Issues

Forests and land damage to encourage massive tree planting program by the various parties. This activity performed both in state lands and public lands. However, it's often as an incidental activity only and not sustainable in its maintenance. In fact, tree planting programs are often neglected after planting. This is due to unclearly who will benefit from the tree later. Some cases can be seen along the river Deli, North Sumatra where after tree planted in tree planting programs are not treated further and no one responsible for the trees. This proves uncertainty tree tenure rights adversely affected the management tree.

Land and tree tenure is related to the rights of ownership, use and control of the land and trees. Here is the utilization of the rights to use the land and trees as a source of farmers' income. When these clearly rights are not obtained then the farmer will avoid planting trees. So it can be said tree planting

programs without clarity of tree tenure system, then it is only a sporadic act alone or not sustainable in the long term.

Theoretically strong property rights on individual rights, communal systems are often regarded as obstacles in the form of investments into land in tree planting. Some researchers say even communal ownership under certain circumstances is able to manage their own resources (self-governance) (Agrawal, 2001; Ostrom, 1999). This suggests that local initiatives can support the management of their resources properly laid out in the rules of the institutional system that is accepted by the community.

Corresponding with the above opinion, the arrangement of tenure system of the tree right can be a system of incentives for farmers to plant trees on their own land. But the order of the rules among indigenous people differs from each other. With a custom base *Dalihan natolu* in South Tapanuli, then the concept of structuring land and tree tenure systems based Dalihan tolu important to be developed. This concept can be the basis for resource management of land and trees by the community by providing clarity of their rights as a basis for building a system of incentives to plant and maintain trees.

Land and forest degradation in Indonesia if not accompanied by efforts to protect the land, would adversely affect the quality of the environment and the land in the long term. Deforestation was triggered by the government's forest management policy that does not favor the indigenous peoples and forest. This often results in conflicts between local communities and government and corporate. This conflict would worsen forest damage caused by the reluctance of society to maintain the forest preserve.

Therefore, the tree planting program should be supported by all parties. But in reality the trees that have been planted are not maintained properly, and tend to neglected. This study tried to put the local institutional-based indigenous peoples as subjects of the planting and maintenance of trees, and then it must pay attention to their rights in the trees or on the land and tree tenure.

So far the tree is always considered to include the land tenure rights. Where the tree rights following the land rights. But the eality is the opposite, the rights on the land even if it can clear the rights to the tree is not clear. It is sourced from local institutions (customs). Local rules determine the existence of the rights to the tree even in private lands.

By getting a clear concept of the land and tree tenure, then the doubt of these rights can be overcome, so that the tree planting and maintenance on an ongoing basis will be done by the people (farmers). The clarity of these rights will be arranged in the local rules of the system, in this study the local customary systems of land and tree tenure be the basic arrangement o encourage the trees planting on public lands.

## II. MATERIAL AND METHOD

The research included: 1) the exploration patterns of land tenure and tree-based custom *Dalihan natolu*. This is how the rules in customary *Dalihan natolu* regarding patterns of ownership, use and control of the land and trees. 2) Exploration of the rights of people who exist on the land and trees. 3) Exploration the role of local institutions for the management of trees. 4) Social and economic status, which include: the level of total household income, income from farm land, age and education of head of family, and number of family members. The research method in the first phase using explorative approach based on Rapid appraisal of social forestry for land and tree tenure (FAO, 2000).

### Place and Time Research

The study was conducted in South Tapanuli, North Sumatra Province. Location selected purposively based on the main residential areas Angkola Batak society, there is a land use system with multipurpose trees on public lands, and the area is a custom base *Dalihan natolu* are still applied in society (Persadaan Marga Harahap, 1993) . The study conducted in the period April 2014 to July 2014, a preliminary survey conducted on the area under study concerns the geographical conditions, land use and the types of plants/ trees are cultivated society. It aims to determine the location and the study sample.

### Sample Selection

- From total 14 sub-districts in South Tapanuli selected as the 7 district study sites based on distribution and potential regions. Purposively selected sample villages with the provisions contained in the tree planting in public land as a form of integration of trees and agricultural crops (agroforestry).
- Corresponding with the purpose of the study to observe tree-based tenure *Dalihan natolu*, then the selection of the sample is determined by the elements *Dalihan natolu*, namely *kabanggi*, *anak boru*, *mora* and *hatobangon*. Then the respondent is determined based by those involved in the management of trees, namely indigenous *Dalihan natolu*, traditional leaders, religious leaders, government dann elements of the relevant agencies in the research area. Description of the selection of the study sample in Table 1.

**Table 1**  
**Overview of research sample selection**

<i>Subdistrict</i>	<i>Classification of Respondents</i>			<i>Total</i>
	<i>Indigenous peoples Dalihan natolu</i>	<i>Traditional leaders</i>	<i>Government Agencies</i>	
1. Batang Angkola	20	5	5	30
2. Sayurimatinggi	20	5	5	30
3. Angkola Timur	20	5	5	30
4. Angkola Selatan	20	5	5	30
5. Angkola Barat	20	5	5	30
6. Batang Toru	20	5	5	30
7. Sipirok	20	5	5	30
Jumlah Responden	140	35	35	210

### Data and Data Sources

The data and sources of data collected in this study are as follows:

1. Primary data obtained directly in the field or from the respondents are: 1) the rights of land tenure and tree, 2) land use profile, 3) the types of vegetation crops cultivated by the community, 4) the diversity of plant species, and 5) utilization patterns of trees and other plants.
2. Secondary data were obtained from the village institutions and related agencies, namely: 1) the physical condition of the study area, state and physiographic land, topography and elevation,

land use, local climate and forest area, 2) the demographic structure of the region concerning the community, ie population, employment, education, etc., and 3) socio-economic conditions of communities in the study area.

### Data Collection Methods and Instruments

Methods and data collection instruments used in this study are: 1) observations, conducted before data collection from respondents. 2) Questionnaire (questionnaire) was made to obtain data regarding the research topic. 3) Interviews were conducted to deepen the answers on the questionnaire study. 4) The study documents conducted as secondary data to complement the primary data.

### Data analysis

Descriptive analyzes performed to establish and explain the patterns of land tenure and trees on community lands. Descriptive analyze is supported by quantitative data were analyzed based on the status of security of land tenure and tree tenure security is shown as index. Analysis of the patterns of land tenure and tree refers to the theory of property rights (property rights regime) including the access, use and management / control of the land and trees. Institutional analysis conducted to explore the role of local institutions in the villages on the structure and functions in the tree management.

## III. RESULT AND DISCUSSION

### Local Customary Institutions (*Dalihan natolu*)

Institutional as a system of rules and organizations have the power in natural resource claims. The local institutional reflect local power relations (power relations) that affect property rights arrangements (property rights) including the institutional system of land tenure (Meinzen-Dick et al, (2004).

*Dalihan natolu* means “three-legged stove”, which is used as the basis or foundation for the cooking pot. What is meant by *Dalihan natolu* is a customary social institution that is an integral part of the entire community that has its own custom rules to regulate various aspects of life that can be used as a tool to overcome various conflicts of rights and obligations (Lubis, 1997). *Dalihan natolu* is the most basic of life the Batak (Sitohang and Sibarani, 1981). With the arrangement of Batak society, which has three elements just like *Dalihan natolu* who work together in various ways, including in managing land resources.

Indigenous *Dalihan natolu* widely known in the community in North Sumatra, namely Batak Toba and Batak Mandailing-Angkola. The elements in the *Dalihan natolu* as the object of this study is: *kebanggi* (kin group in the clan), the *anak boru* (group of relatives who took wives from relatives mora), and mora (a group of relatives who gave Boru to be wife by *anak boru*). While the men of skill hatobangon are indigenous peoples who have of understanding the customs of Batak (Parsadaan Marga Harahap, 1993).

So far the existence of indigenous *Dalihan natolu* more seen as a custom activity alone. However, the role of indigenous structures in natural resource management, especially on land directly included in a customary rule *Dalihan natolu* (Table 2). This is related to the distribution (inheritance) and land use and tree are very important in maintaining sustainability. Therefore conceptualize tree tenure based *Dalihan natolu* important to revitalize the role of indigenous peoples in the management of land and trees to encourage sustainability.

**Table 2**  
**Role of *Dalihan natolu* in activities on public lands**

<i>Activity Type</i>	<i>Mora</i>	<i>Kahanggi</i>	<i>Anakboru</i>
Planting and growing again			√
Maintaining the tree			√
Cutting down a tree			√
Using the tree	√	√	
Pass down the tree	√	√	
Sell a tree	√	√	

Role *Dalihan natolu* appears on perennial crops such as if there is durian, coconut, trees and other plants multifunctional. *Dalihan natolu* here has a role in maintaining, cutting down trees and using tree. Maintain trees as a form of engagement such as cleaning the garden. More involvement of the co-operation to assist and memnfaatkan plant products (timber). So the wood has a communal function in addition to its own interest's landowners.

*Dalihan natolu* involvement can not be separated in the tree control on the transfer of the rights associated with the conflict, such as the theft of timber or other tree products. Basically any conflicts related to property rights claimed by the parties or others. The approach of this conflict in the Batak community preferred kinship or custom as an alternative approach rather than through formal legal. As mentioned by Manalu (2009), that is more like the Batak community in ways outside the court in resolving the dispute. Here a very important role of *Dalihan natolu* in resolving conflicts for tenure claims to resources including trees. According Toruan (2013) Batak society can not be separated from the customary system is based *Dalihan natolu*. *Dalihan natolu* Systems are custom of Batak society and their identity can not be separated from the customary system wherever located.

While the non-timber plant products, such as coffee, bark, gum, then land owners to utilize the results more than the family needs involving relatives in his/her *Dalihan natolu*. Mora has a greater role in directing the farming activities in the selection of plants and forms their farm. In maintaining activity and cutting down more trees mora basically acting as adviser, but also may be involved in the use of wood products. To sell timber Mora can be involved in helping to sell to consumers.

While the role *kahanggi* also acts as a helper to the owner to manage his farming operation and also in the maintenance and utilization of the tree. In terms of utilizing the tree, *kahanggi* may borrow wood for his own benefit, while *anak boru* can use in the utilization of trees along the permission of the owner of the tree.

### Type Local Institutions

The involvement of other institutions generally does not occur to securing or control land. The role is mostly done by the owner of the land itself coupled with elements *Dalihan natolu*. The *Dalihan natolu* particular role in monitoring the transfer or assignment of the land rights. So far the land is not in conflict with other community members. Local institutions play a bigger role when facing conflicts among members of the community. Resolution of conflict generally relies more preferably amicably or with the involvement of local traditional institutions based on the elements *Dalihan natolu*.

**Table 3**  
**Type followed by the local Institutional *Dalihan natolu* Society**

No.	Type of Institution	Name Institution	Remarks
1.	Public institutions	Village Government, Village Consultative Body (BPD), Village Empowerment Institution (LPMD), Empowerment Family Welfare (PKK).	Implementation, supervision and empowerment of rural communities
2.	Central institutions	Recitation, Helping Institution (STM), Recitation, Mosque Institution (BKM), Youth Naposo Nauli Bulung,	Role in the social life to accommodate joint activities (collective action)
3.	Private Institutions	Farmers Groups) Gapoktan	Aiming to facilitate economic interests

From the institutional (Table 3) followed by people appears that institutional type is centre institution more aimed for the common interest (collective action). Centre institutions serve as a forum that unites members for the activities of non-profit or social activities. Form of institution that aims to be a forum for profit interest is private institutions. While public institutions are government agencies/ formal as an arm of government in organizing village.

Public institutions has a greater role in village administration functions as an arm of government and less oriented in an effort to improve the local economy directly. The lack of institutional incentives in of natural resources management for the effective and efficient, or in other words less reward and funishment. Yet according to Hasan (2000) reward and punishment is an important action that institutional rules can be implemented.

According to Abdullah (2001) Membership in the society is a social organization which aims to encourage critical to overcome the difficulties in his life, and vice versa without the support of the institution or organization assume someone will have difficulty in gaining access to the use of various resources, including the land and trees. Therefore, institutions can be a source of information for its members in bridging interests with outside parties. Or in other words there is a dependence of a person connected with another person in an institution or organization.

The rights on land can basically be made in full by the owner of the land. However, the implementation in the field that the decision made in transferring ownership to another party still must be approved by other family members. In the use of such plant and plant again can be done freely without having to get approval from the other party.

## VI. CONCLUSIONS AND RECOMMENDATIONS

### Conclusion

1. The pattern of land tenure and tree-based custom *Dalihan natolu* in Batak society Mandailaing-Angkola shows that there are specific characteristics as a form of resource management and utilization of land and trees.
2. The elements of traditional institutions *Dalihan natolu* have different roles in the control tree. Institutional mainly play a role in conflict resolution resource use, including land and trees.

3. The dominant form of local institution is centre institution, which role to promote joint activities, while institutions that encourage economic activity (profit) are very limited.

### RECOMMENDATIONS

1. Development of local institutions to support the planting and maintenance of trees on public lands should involve *Dalihan natolu* elements specifically.
2. It is important to develop institutions that encourage and facilitate the activities of profit on indigenous peoples.
3. It is important for further research specifically related to policy and institutional control of resources affecting tree pattern tree management on public lands.

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