Institutional Synergy Model of Awota Forest Management Unit in South Sulawesi Province

Supratman¹, S Alam¹, Emban Ibnu R¹, Adrayanti S¹, M A K Sahide¹

¹ Faculty of Forestry, Universitas Hasanuddin, Indonesia

E-mail: supratman.unhas@gmail.com

Abstract. Overlapping of Community Plantation Forest (HTR) reserves with Forest Management Unit (KPH) areas, will create conflict in forest management if the institutional management of HTR is not synergized with KPH institutions. This study aims to form a descriptive model of institutional synergy in the management of HTR within the KPH Awota Area. The study was carried out in the village of Minanga Tellue, Maniangpajo District, Wajo Regency. Field observations, in-depth interviews, Focus Group Discussion (FGD), workshops, and documentation studies were conducted to collect primary and secondary data. Map analysis, institutional analysis, and stakeholder analysis were carried out to achieve the research objectives. The results of the study found a descriptive model of the synergy of forest management institutions, including components: (1) input models in the form of policies, potential, problems, strategic issues, institutions, and stakeholders, (2) management prescriptions include site management and institutional synergy, and (3) model output, namely wood, mulberry and food products. The model needs to be tested and further studied regarding the potential economic efficiency created and the value of economic benefits received by each stakeholder on the implementation of the model.

1. Introduction
In 2010, the Minister of Forestry reserved a production forest area of 2,398.90 ha in Wajo Regency to be managed by the community through the Community Plantation Forest scheme or called HTR (Surat Keputusan Menteri Kehutanan Nomor SK.523/Menhut-II/2010) [1–3]. In 2013, the Minister of Forestry had established an area of Forest Management Units (KPH) Awota in Wajo Regency covering an area of 19,071 ha (Keputusan Menteri Kehutanan Nomor: SK.979/Menhut-II/2013), in which the entire HTR reserve area inside the KPH Awota area. This led to the dualism of stakeholders in management rights in the same forest area [4]. In 2016, the UPTD KPH Awota had designated the Sipakatau Farmers Group as HTR managers in the KPH area. This study aims to form a descriptive model of the synergy of HTR-KPH management institutions in achieving forest management goals.

2. Material and Method
The study was conducted at the Empowerment Block of the Awota KPH area, in the Village of Minanga Tellue, Maniangpajo District, Wajo Regency. Field observations, in-depth interviews, Focus Group Discussion (FGD), workshops, and documentation studies were conducted to collect primary and
secondary data. Map analysis, institutional analysis, and stakeholder analysis were carried out to achieve the research objectives.

3. Results and discussion

3.1 Institutional Assessment

Formally, the Awota KPH area is managed by the UPTD KPHP Awota, which is formed based on Regent Regulation Number 21 of 2010. In an institutional perspective, UPTD KPH Awota is a government structure that will implement forest management policies formulated by the Ministry of Forestry, South Sulawesi Provincial Government, and the Wajo District Government. Therefore, the FMU will carry out sustainable forest resource management in the forest area [5]. The forest management includes all activities to achieve the stated management goals.

Referring to Government Regulation No. 6 of 2006, the duties and functions of KPH institution are (1) implementing forest management objectives and policies in the field, and (2) measuring management performance and evaluating it to become input to management activities in future. In carrying out the duties, the UPTD of the KPH Awota must cooperate with the local community institutions who have previously utilized the forest area.

The institutional assessment results revealed that there was an institutional on "ongko" land ownership in the Empowerment Block of the KPH Awota area. In this "ongko" institution there are three elite figures of the local community who control the forest area in the Block of Empowerment. The "ongko" land authority gives land management rights to the local community with a profit sharing system — farmers who manage the "ongko" land form an institution namely the Sipakatau Farmer Group.

3.2 Stakeholder Assessment

Stakeholders who will influence or will be influenced either directly or indirectly in the management of FMUs consist of, community elites who have mastered ("ongko") land, local communities who have carried out activities in the forest, Minanga Tellue Village government, Sipakatau Farmers Group, and UPTD KPH Awota. The results of stakeholder analysis have mapped the power, interest, and legitimacy of stakeholders in the management of KPH area as presented in Table 1.

Table 1. Results of Stakeholder Analysis

| Stakeholder                | Power (P) | Interest (I) | Legitimacy (L) |
|----------------------------|-----------|--------------|----------------|
| Farmer                     | Low       | Height       | Low            |
| Land “Ongko” Authorities   | Tinggi    | Height       | Low            |
| Sipakatau Farmer Group     | Low       | Height       | Low            |
| Village Head               | Tinggi    | Height       | Height         |
| UPTD KPH Awota             | Tinggi    | Height       | Height         |

The results of the analysis in Table 1 show that the ruler ("ongko") of land and UPTD KPH Awota are stakeholders who have a high power (P) to influence the achievement of management objectives of the KPH Awota. The two stakeholders control the land in the Community Empowerment Block, but with different legitimacy. In de jure, the area is a state forest managed by the UPTD KPH Awota so that its legitimacy is high. However, in de facto, the area was controlled by the elite of the local community, although it did not have the legitimacy of management rights from the government. The land ownership by the two stakeholders caused both of them to have a high strength to influence the entire decision-making process on land management.

The results of the stakeholder analysis in Table 1 also show that all stakeholders identified as having a high interest (I) over the management of the KPH area. This means that the management of the area will provide high profits or losses to identified stakeholders so that their active involvement will
influence the success of achieving forest management objectives. This high interest is also due to stakeholder needs by the purposes of forest management.

The strategy for involving stakeholders in managing KPH Members is as follows: (1) Stakeholders of the UPTD KPH Awota, The Minanga Tellue Village Head and with high power (P), interest (I) and legitimacy (L) must be fully involved in all stages of forest management activities to ensure the success of the program, (2) Farmers and Sipakatau Farmers Group with low power (P) but high interest (I) need special efforts and specific strategies, so that they become convinced that their needs are in line with the objectives management of Community Empowerment Block area and believe that their involvement is very important for the success of the program, (3) Land authorities ("ongko"), with high power (P) and interest (I), but low legitimacy (L) has the potential to be an opponent/opposition from program implementation. Therefore, these stakeholders need to be given a good understanding of the objectives of managing the Community Empowerment Block and involving them at all stages of program implementation.

3.3 Institutional Synergy Model

The Institutional Synergy Model is formulated as a concept (or expected) to empower community institutions with government institutions in overcoming management problems to achieve forest management goals [6]. Based on the results of the institutional assessment and stakeholder analysis, formulated the components forming the institutional synergy model as presented in Figure 1.

![Institutional Synergy Model](image)

**Figure 1. Institutional Synergy Model**

Figure 1 shows the components that make up the model, namely: (1) model inputs in the form of policy, potential, problems, institutions, and stakeholders, (2) Silviculture prescription includes site management and institutional synergy, and (3) output model, namely sustainable forest and prosperous society.

3.4 Model Inputs

**Policy**

The policy input that is directly related to the management of KPH Awota management is: (1) Decree of the Minister of Forestry No. SK.88 / Menhut-II / 2011 concerning KPH Areas in South Sulawesi, (2) Regent Regulation Number 21 of 2010 concerning Establishment of UPTD KPH Awota, (3) Letters Regent of Wajo to Minister of Forestry Number 522/103, (4) Decree of Minister of Forestry Number:
SK.979 / Menhut-II / 2013 dated December 27, 2013 challenging the establishment of KPHP Model Awota of ± 19,071 ha, (5) Perdirjen No. P.5 / VII-WP3H / 2012, concerning Technical Guidelines for Forest Management Unit Plans, (6) KPH Awota Forest Management Documents, and (7) Documents for KPH Awota Forest Management Plans.

Priority Problems
Management of Community Empowerment Blocks will be faced with problems related to aspects of resources, institutions, and stakeholders. Based on the results of resource analysis, institutional analysis, and stakeholder analysis, identified several potential and priority issues in managing the Community Empowerment Block as presented in Table 2.

Table 2. Identification Results of Potential and Priority Issues for Community Empowerment Blocks Management

| Aspect          | Potential                                      | Priority Issues                                                                 |
|-----------------|------------------------------------------------|----------------------------------------------------------------------------------|
| Land Resources  | The land area of 144.23 ha in the empowerment block | Not vegetated forests                                                              |
| Human Resources | UPTD KPH Awota staff                            | The community has used a season of agricultural crops                              |
|                 | Workers from the local community                | The number of technical personnel in forest management from the UPTD KPH Awota is small |
|                 |                                                 | Local communities do not have the capacity to manage forest areas for the purpose of producing timber forest products |
| Financial Capital| BLU funds from the Ministry of Forestry         | Still depends on the Ministry of Forestry funds                                    |
|                 | APBD funds                                      |                                                                                  |
|                 | Local community funds                           |                                                                                  |
|                 | Results of forest management throughout a rotation |                                                                                  |
| Physical Infrastructure| Accessibility is quite high up to the village center | A system of sharing funding between farmers, the UPTD KPH has not been formally regulated |
|                 |                                                 | Accessibility from the village center to the community empowerment block areas is low |
| Institutional   | The institution of the UPTD KPH Awota          | The system of rights and responsibilities for forest management between institutions has not yet been established |
|                 | The Sipakatau farmer group                      |                                                                                  |
|                 | Local institutions in the local community       |                                                                                  |
| Stakeholders    | Stakeholder Farmers, land authorities (“ongko”), Village Heads, Sipakatau Farmers’ Groups, and UPTD KPH Awota have a high interest | imbalance of power, interest, and legitimacy of stakeholders in forest management |
Institutional
The KPH Awota area, managed by a government agency (UPTD KPH Awota), which was formed based on Regent Regulation Number 21 of 2010. In addition to formal government institutions, there are also local community institutions that have the potential to influence the management of KPH Awota, namely the Sipakatau Farmer Group and the “Ongko” Land Tenure Institution by local elites of the local community.

Stakeholders
Stakeholders who have the potential to influence or be influenced either directly or indirectly in the management of KPH Awota consist of local elites of the local community who currently control (“ongko”) land, individual local communities who have managed the area on the Community Empowerment Block, government of Minanga Tellue Village, Sipakatau Farmer Group, and UPTD KPH Awota. The different strengths and legitimacy of each of these stakeholders cause the need for different engagement strategies to optimize their role in the activities of management of the KPH area to ensure the achievement of forest management objectives.

3.5 Site Management
Site management includes components (a) shared vision, mission, and forest management value system, (b) management objectives, and (3) silviculture prescription.

Joint Vision
Determining the vision of forest management is an important step, especially to help develop strategic programs for the successful management of the Community Empowerment Block. Determination of vision Management must be associated with the vision of the Management of the Awota KPH, and the vision of empowering local communities.

Management Objectives
The objectives of the management of the Awota KPH are: (1) to increase the productivity and economic value of forest areas, (2) to develop ecological, economic and social cohesion in accordance with the principles of sustainable forest management, (3) to promote the development of agroforestry patterns and forest products timber in the Awota KPH area that has been utilized by the community, (4) developing an integrated business of utilizing environmental services and non-timber forest products, and (5) developing a collaborative institutional system in the Management of the KPH KPH.

Silviculture Prescription
Referring to the Awota KPH Management Plan document (Supratman, 2015), the forest area in the Community Empowering Block will be managed with the pattern of Silk-Based Agroforestry. There are two patterns of Silk-Based Agroforestry that can be applied, namely, Agroforestry Fence Patterns and Agroforestry Hallway Patterns, with gmelina and red Jabon species as the main crops and food crops and mulberry as companion plants.

3.6. Institutional Synergy Model
The intended institution is a set of shared rules and shared behavior, to achieve the common goal of forest management. Institutional management of Community Empowerment Block is related to stakeholders who will be affected or affected by forest management activities in the area. Therefore, the effectiveness and efficiency of forest management will be achieved if these stakeholders can work together by sharing the roles and responsibilities that are mutually beneficial in carrying out forest management activities in the field.
Within the framework of community empowerment policy in forest management, the appropriate scheme to synergize stakeholders in forest management in the KPH area is the Forestry Partnership scheme (Regulation of the Minister of Forestry of the Republic of Indonesia Number: P.39 / Menhut-II / 2013 concerning Local Community Empowerment through the Forestry Partnership). Through this scheme, the local community has increased its ability and independence to obtain the benefits of forest resources optimally and fairly in order to improve their welfare.

The institution of forest management through the Forestry Partnership scheme in the KPH area requires a Forestry Partnership Agreement between the Sipakatau Farmer Group and the UPTD KPH Awota. The relationship between stakeholders in the management of the Forestry Partnership scheme is illustrated in Figure 3.

![Figure 2. The relationship between Stakeholders in Institutional Partnership Management](image)

The stakeholders identified in Figure 3 have established common rules and behavior in managing the Forestry Partnership scheme, as presented in Table 4.

**Table 3. Formulation of Joint Rules, Joint Behavior, and Joint Objectives on the Management of Community Empowerment Block**

| No. | Stakeholder             | Joint Rules                                                                 | Joint Behavior                                                                 | Joint Objectives                                                                 |
|-----|-------------------------|------------------------------------------------------------------------------|-------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| 1.  | UPTD KPH Awota          | • Facilitating stakeholders to implement forest management                    | • Manage partnership areas for a period of 15 years, with a maximum area of 2.0 ha for each farmer. | • Local people get legal access to manage the forest                           |
|     |                         | • Obtaining profit sharing for mulberry and woody plants in the amount of 1/3 part or 33.3% of the total net value of production | • develop a forest management work plan                                      | • Local people get direct benefits from the results of forest management for their welfare |
|     |                         |                                                                               | • Securing the forest                                                        | • Local communities gradually develop into strong, independent,                 |
| 2.  | Village Government      | • Providing public services according to their authority                      |                                                                               |                                                                                 |

6
- Obtaining profit sharing from mulberry plants and woody plants by 3.0% (three percent) from the profit sharing of mulberry plants and woody plants which were collected by the UPTD KPHP Awota
- provide production facilities and infrastructure
- Oversee the implementation of partnerships
- Joint marketing of timber forest products and NTFP
- remind each other if there is a deviation
- periodically report activities at least once a year

3. Sipakatau Farmer Group
- managing Jabon, and gmelina species
- managing NTFP with agroforestry patterns, namely: mulberry, corn, peanuts, green beans, cayenne pepper
- members of the farmer group get all (100.0%) of the annual crop yield
- members of the farmer group obtain profit sharing for mulberry plants and woody plants in the amount of 1/3 part or 33.3% of the total net production value
- The head of the farmer group obtains the profit sharing of mulberry and woody plants by 5.0% of the profit sharing of mulberry plants and woody plants which are collected by the UPTD KPH Awota

4. Land "ongko" authorities
- managing Jabon, and gmelina species
- managing NTFP with agroforestry patterns, namely: mulberry, corn, peanuts, green beans, cayenne pepper
- Cooperating with members of the Sipakatau Farmer Group managing the "Ongko" land
- Obtaining profit sharing for mulberry and woody plants in the amount of 1/3 part or 33.3% of the total net value of production

The UPTD KPH and the Minanga Tellue Village Head as representatives of the government distributed their resources in the form of forest area land, as well as human resources and financial resources in providing facilitation needed to stakeholders. The intended facilitation (Regulation of the Minister of Forestry of the Republic of Indonesia Number: P.39 / Menhut-II / 2013) is to develop institutional capacity, business, technology, technical and administrative skills, and provide access to Forestry Partnership legality, capital, conflict resolution and access to marketing. In carrying out this role, the UPTD KPH Awota can be assisted by other parties, such as Universities, NGO, Forestry Extension, Private Forestry Extension, and/or institutions that have competence in the Forestry Partnership.

Sipakatau Farmers Group and "Ongko" Land Authorities as representatives of local communities distribute their resources in the form of labor, financial capital, entrepreneurship, and local institutions. These resources are not owned by government stakeholders in carrying out forest management activities in the field. The government can only obtain labor resources with a labor wage system, however, it requires high costs so it is not efficient. With the authority that is owned, the government can also ignore the local institutional system in managing the forest, but it has the potential to cause conflict which will hinder the implementation of forest management activities. This affects forest management being ineffective and will lead to failure to achieve forest management goals.

The synergy institution presented in Table 4 does not only cover fair resource synergy (proportionally according to each resource) in managing forests, but also in terms of the distribution of benefits resulting from forest management activities. The distribution of results of 1: 1: 1 shows that the principle of fairness that is equally (without considering the proportion of the value of the resources invested by each stakeholder in forest management activities) is not easy to implement in community-based forest management practices. Factors such as stakeholder egoism and claims of the value of different resource contributions invested by each stakeholder in forest management activities will hamper the implementation of the principle of fairness equally in distributing the benefits of forest products. The distribution of benefit values uses the principle of fairness which equally reflects social equity in forest management. This is one of the basic principles in community-based forest management and is one indicator of sustainable forest management.

4. Conclusion
The descriptive model of institutional synergy in KPHP management includes components: (1) input models consist of policies, potentials, problems, institutions, and stakeholders, (2) management prescriptions include site and institutional management, and (3) output models, namely wood, mulberry, and food. The UPTD KPH Members immediately need to test the model and further examined the potential economic efficiency created and the value of the economic benefits received by each stakeholder on the implementation of the model. Based on the findings of this study, there were.
References

[1] Supratman 2010 Strategi Pengelolaan Kesatuan Pengelolaan Hutan Produksi (KPHP) di Sulawesi Selatan *Workshop Pembangunan KPHP* (Makasar : Kementerian Kehutanan di Makassar) p 34

[2] Sapoetra 2016 Analisis Kelayakan Pola Agroforestry HTR Murbei pada Blok Pemberdayaan KPH Awota (Makassar : Universitas Hasanuddin) p 98

[3] Nuraeni 2017 Gaps in the thread: Disease, production, and opportunity in the failing silk industry of South Sulawesi. *For. Soc.* 110–20

[4] Supratman 2013 Rekomendasi Manajemen Untuk Mengakseslerasi Pembangunan Hutan Tanaman Rakyat (HTR) Di Provinsi Sulawesi Selatan *Teaga Ahli Bidang Pengusahaan Hutan* (Makassar : Dinas Kehutanan Provinsi Sulawesi Selatan. Makassar) p 45

[5] Sahide, Supratman, S Maryudi, A Kim, Y. S. & G 2016 Decentralisation policy as recentralisation strategy forest management units and community forestry in Indonesia *Int. For. Rev.* 18 78–95

[6] Fisher, L. A., Kim, Y. S., Latifah, S. & M 2017 Managing Forest Conflicts Perspectives of Indonesia’s Forest Management Unit Directors. *For. Soc.* 1 8–26