

Coordination in Protected Forest Management in Indonesia: An Application of Soft Systems Methodology

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ABSTRACT

Coordination is a very complex problem that has occurred in the management of protected forests in Indonesia. The purpose of this study is to elucidate how the Soft Systems Methodology (SSM) is used as a basis for rearranging coordination in the management of protected forest. SSM demonstrates various aspects of co-ordination to be addressed and concrete steps that decision-makers in the management of protected forest should make. Using the case example of protected forest management in Wonosobo Regency, Central Java, Indonesia, this study suggests that there are nine steps to be considered in coordinating the management of protected forest. The findings of this study are relevant to decision makers inasmuch as the stages in SSM can help decision-makers to address problems in the coordination of protected forest management.

Keywords: coordination, protected forest management, Soft Systems Methodology (SSM)

ABSTRAK

Koordinasi merupakan masalah yang sangat kompleks terutama terjadi dalam pengelolaan hutan lindung di Indonesia. Tujuan dari penelitian ini adalah untuk menjelaskan bagaimana Soft Systems Methodology (SSM) digunakan sebagai dasar untuk mengatur koordinasi dalam pengelolaan hutan lindung. SSM menunjukkan berbagai aspek koordinasi yang harus ditangani dan langkah nyata yang diambil oleh pengambil keputusan dalam pengelolaan. Contoh kasus penelitian adalah pengelolaan hutan lindung di Kabupaten Wonosobo, Jawa Tengah, Indonesia. Penelitian ini menunjukkan bahwa ada sembilan langkah yang harus dipertimbangkan dalam mengkoordinasikan pengelolaan hutan lindung. Temuan penelitian ini relevan bagi pengambil keputusan sedemikian rupa sehingga tahapan dalam SSM dapat membantu pengambil keputusan untuk mengatasi masalah dalam koordinasi pengelolaan hutan lindung.

Kata kunci: koordinasi, pengelolaan hutan lindung, *Soft Systems Methodology* (SSM)

INTRODUCTION

There is support for community rights and participatory initiatives leading to greater incentives for management, better protection for forest, and a reduction of deforestation ([FAO, 2011](#); [Hayes & Ostrom, 2005](#); [Porter-Bolland et al., 2012](#)). The protected forest plays a very important role in human life ([Arief, 2001](#); [Barberet et al., n.d.](#); [Government of the Republic of Trinidad and Tobago, 2011](#); [Sinery & Mahmud, 2014](#); [UNEP-WCMC, 2009](#)). One important aspect in the management of forest that is related to human coordination. However, various problems arise in the implementation of coordination in the management of forest or protected forest ([Bengston et al., 2003](#); [Hannah, 2010](#); [Phelps et al., 2010](#); [Sarvasova et al., 2012](#)).

A study that was relevant to the coordination of forest management was undertaken by [Elvida and Sylviani \(2010\)](#). The results of the research show that the mechanism of coordination between stakeholders in the management of Forest Management Units (*Kesatuan Pengelolaan Hutan/KPH*) is not yet optimal. KPH has not been able to operate independently so it needs to be facilitated by the central and regional governments in terms of funding, work relations mechanism, and infrastructure.

[Ekawati \(2010\)](#), conducting research on the working relationship between forestry institutions in the management of protected forests in the era of regional autonomy, explained that the coordination between the central, provincial, and local levels is still not going well. Ekawati proposed a clear reference to the authority that was decentralized to the district government by the central government and the need for binding instruments in order to function properly. On the other hand, [Ginoga](#) exposes research results that show the existence of dualism, inconsistency, overlapping, and disharmonization of government policies in the management of protected forests ([Ginoga, Wulan and Djaennudin, 2005](#)).

Various studies have been conducted regarding the coordination of the management of protected forest in Wonosobo Re-

gency. Coordination problems in the management of protected forest are due to, among other things, the following: less integration of development programs across sectors ([Grand Design RTPKD, 2007](#)); the coordination between Government Forest Business Enterprise (Perhutani) and the local government Regency of Wonosobo is not optimal ([Pemkab Wonosobo, 2006](#)); less coordination in programming rehabilitation protected forest ([Zulaifah, 2007](#)); law enforcement is less consistent, has less synergistic cooperation, and is simultaneous among Perhutani, local government, and local communities ([Sulistiyowati, 2004](#)); each agency works based on their objective without looking at the role of other organizations ([Witzel, 2004](#)). This research was conducted in the government-owned institutions that manage forests (Perum Perhutani), located in Wonosobo Regency, Central Java. The determination of the location of this study was based on any problems regarding coordination in the management of protected forest. Based on these issues, this research is formulated with the following research question: What is the optimalization process of coordination using Soft Systems Methodology (SSM) in the management of protected forest in Wonosobo Regency, Central Java?

THEORETICAL FRAMEWORK

There are various insights conveyed by various experts on what coordination means. According to [Pulzl \(2008\)](#), coordination is defined as a jointly harmonized action. These activities involve various actors, administrative units, or organizational units that coordinate their activities in order to achieve the stated goals and to achieve the organization's overall objectives. [Laegreid \(2013\)](#), on the other hand, in his article entitled "Coordination in the Public Sector", as quoted on a page on his website, said that coordination in the public sector can be interpreted as the alignment of task objectives in order to achieve the goals set. On the other hand, [Badiru \(2008\)](#) said that the synergy in a work team requires a high level of coordination. According to Badiru,

project coordination is a choreography of cooperation between various elements and team members of a project where each team member must show commitment so that the harmony of the project can be guaranteed, while [Verbij \(2008\)](#) says that coordination for forest policy community members is often interpreted as a way to understand what lies beyond the boundaries of the forestry sector.

[Syafiie \(2011\)](#) stated that coordination activities that occur in government management include the following elements: a) arrangements, b) synchronization, c) common interests, and d) common goals. In carrying out the work of an organization the overlapping of work is often encountered, so coordination is needed to solve this, and it is thus considered an aspect that plays an important role in achieving the organization's goals and common interests. According to [Pulzl \(2008\)](#), the purpose of coordination can be broken down into three aspects: (1) the existence of a mutual adjusting point of view from the perspective of each actor or administrative unit related to a policy; (2) the mutual adjustment of different sectoral policies, whose objectives may conflict with one another, to enhance consistency and cohesion among them; and (3) multilevel coordination (national, regional, and local). Meanwhile [Laegreid \(2013\)](#) says that the goal of coordination in general is to create greater coherence in policymaking and to reduce redundancy, emptiness, and contradictions within and between policies. Coordination and specialization make up an interconnected concept indicating that improvement in specialization will also increase the need for coordination.

In the framework of achieving the objectives of the organization, it is necessary to carry out effective coordination conducted by the authorities in organizing the organization. According to [Badiru \(2008\)](#), the effectiveness of organizing an activity project is not only measured by the volume of resources allocated to it. Success in a contemporary project is based on effective coordination of human resources, work processes, and tools. In this case the implementation of coordination is related to work re-

lated to others; for example, in order to collect information, coordination is needed with others who own, protect, or manage that information.

According to [Witzel \(2004\)](#), coordination is inseparable from the control aspect, because in order for coordination to run effectively it is necessary to have control over the coordination that has been done. Therefore Witzel says coordination is also known as control, although the term is rarely used or has become obsolete. According to Witzel, coordination is defined as what managers do in order to bring all organizational elements together and ensure they are going in the same direction. Furthermore, Witzel says:

Organizations are poorly coordinated by individuals and working groups because they are conducted without referring to or looking at other organizational elements, doing business in vain, or working on their own. In a well-coordinated organization, everyone needs to be aware of what others are doing and work together harmoniously toward the same organizational goals ([Witzel, 2004](#)).

From the various explanations above it can be concluded that coordination involves the various elements that exist within an organization and is closely related to the goals of the organization where in achieving organizational goals it is required to control for coordination that can run in accordance with the purpose of each unit in an organization. According to [Handayani \(1990\)](#), the causes of the emergence of coordination problems are: (1) the number and complexity of functions and activities specifically carried out by various units or individuals; (2) increasing the specialization of various activities so as to enlarge the organizational structure itself; and (3) the fact that complex organizational structures will lead to increased communication problems that impede good coordination.

[Ashton et al. \(2013\)](#) argued that the implementation of coordination concerning activities and objectives in forest management related to forest land owners requires the following condi-

tions: (1) Self-impulse. Forest landowners need to be encouraged and persuaded to participate so they realize the benefits achieved through coordination rather than when working alone, without involving others; (2) Time. Landowners must be confident that the opportunities available to achieve the expected outcomes are limited, or at least reduce the benefits to be achieved. Long or long-winded meetings or meetings can reduce the interest and participation of forest landowners; (3) Trust. Each forest landowner must believe that the activities carried out will not violate their rights, privacy, and goals. Real programs, community leaders, and agency support can help develop their trust. On the other hand, [Weiland \(2010\)](#) states that forest governance deals with nonhierarchical governance involving actors and stakeholders from different levels through formal and informal cooperation and interaction processes, from local to global levels. Forest governance not only refers to government regulations and law enforcement, it also involves a political, organizational, and cultural framework in which there are coordinated and controlled diverse interests in natural and cultural resources.

[Badiru \(2008\)](#) provided an overview of the importance of project management through a project management model called "Triple C: Communication, Cooperation, and Coordination." This model is an effective project control and planning tool so that project management can be improved through the integration of communication, cooperation, and coordination functions. Coordination is a really important key to completing a job in a project so that no project system operates in isolation. Each project must interact both within and outside the scope of its operation. In addition, interaction with some other organizational subsystem is essential so this of course requires coordination, while [Waldherr \(2012\)](#) says that mass media is an important factor in modern society and innovation systems, and relevant to a policy that concerns high technology. Systems innovation is a complex functional system, because it serves multiple functions within an organization. The mass media

Contributes several important functions within an organization, one of which is the coordination function.

In relation to projects within an organization, according to [Badiru \(2008\)](#), the effectiveness of a project is not only measured by the volume of resources allocated to the project. Success in a contemporary project is based on the coordination of human resources, work processes, and effective tools. In this case, the coordination aspect concerning work related to other people, for example in collecting information, hence requires good coordination with others who have protected or managed information.

[Faraj and Xiao \(2006, pp. 1155-1169\)](#) conducted a study on collective performance aspects of coordination as well as the process of coordination. They say that in a fast-response organization coordination practices may arise suddenly and cannot be established beforehand. At the most basic level of organization, the practice of dialogic coordination is done as a reaction to improve organizational performance. The nature of the dialogue is based on the need for cross-organizational boundaries and to ignore the hierarchy. Expertise coordination practice is needed to regulate the skills and interdependence of knowledge among the units.

Successful organizations usually apply various methods to connect between individual business and organizational endeavors in achieving the desired organizational goals. According to [Bolman and Deal \(1991\)](#), the organization's efforts in relation to formal coordination and control are carried out in two ways: First, *vertically*: Coordination activities are conducted through a command mechanism, supervision, policy, rules, planning, and a control system. Basically vertical coordination occurs when people at a higher level coordinate and control the work of their subordinates. Secondly, *laterally*: Coordination activities are carried out through meetings, task forces, standing committees, special coordinating roles, or matrix structures. Lateral coordination in practice is done more informally, where it occurs when

they are at the same level or at a level reacting to the other side. Which one is better (vertical or lateral) depends on the task and environment of the organization. Vertical coordination can be applied when the organizational environment is more stable, and tasks predictable and easy to understand, and uniformity is a very important aspect. Lateral coordination can be done in organizations whose tasks are more complex, in an uncertain environment, and are changing rapidly.

According to [Pulzl \(2008\)](#), there are two models of coordination, i.e., a positive coordination model and a negative coordination model. Positive coordination involves all relevant actors and performs interactively in order to achieve maximum collective advantage. Positive coordination provides an opportunity, such as a central authority, to involve other actors in the decision-making process on a multilateral basis. Negative coordination involves only a few actors on a bilateral basis chosen by a superior unit. Negative coordination is a form of hierarchical coordination that allows a central authority to clarify links with selected actors on a bilateral basis. Next will be discussed the positive and negative coordination model as shown in the figure below.

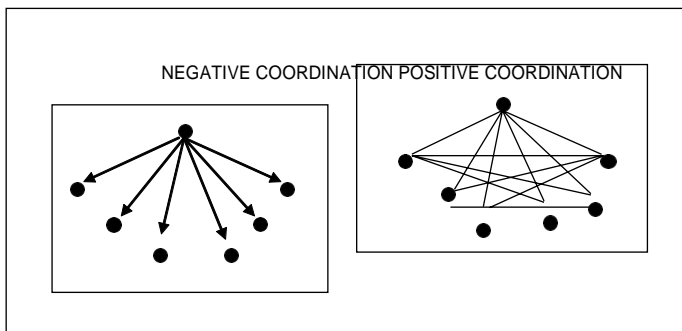


FIGURE 1. POSITIVE AND NEGATIVE COORDINATION MODEL (PULZL, 2008).

With regard to the importance of coordination within an organization, [Handayani \(1990\)](#) states the following:

a) Good coordination will have an effect on the efficiency of an

organization. Therefore, coordination needs to contribute (contribution) to the achievement of efficiency with more specific efforts, because the activities of the organization are carried out specifically. If not, there will be waste, including wast- age of money, energy, and tools.

- b) Coordination has an effect on organizational morale, especially in relation to the role of leadership. If the leadership is not good, then it is coordinated badly. Therefore coordination determines and influences leadership success. For example: If an organization is not coordinated, a decision will be delayed or inaccurate, or there will be errors in decision-making.
- c) Coordination has an effect on the personal development of an organization. This means that there needs to be an element of personal control in coordination. In doing a job, people are not always left free to work, but must be controlled. Attention should be paid to an employee's work so that he will feel happy if he receives an award from the results of his work. Conversely if there is a mistake, subordinates should not always be blamed, because leaders are also responsible, including in terms of responsibility in coordinating.

[Jones \(1997\)](#) explains that the ability of organizations to develop a strategy for creating value and the ability to act as a superior competitor is a function of the core competencies of an organization. The core competencies in Jones's opinion are: (1) specialized resources, consisting of functional resources and organizational resources. Functional resources are capabilities possessed by individual organizations functionally. Organizational resources are attributes that give the organization a competitive advantage, such as top management team capability or ownership of scarce and high-value resources; (2) coordination abilities (the ability to coordinate), namely the ability of the organization to coordinate functional resources and organizational resources to generate maximum value. Effective resource coordination (achieved through control through organizational structure and

culture) results in competitive advantage.

As regards the role of a person in coordinating within an organization, [Stewart et al. \(1999\)](#) state that there is no formal guidance on the duties of a coordinator, yet a coordinator behaves more in keeping with social conventions than structured rules. The role of a coordinator includes: (1) encouraging a team to overcome its own problems; (2) helping a team solve conflicts encountered within the group; (3) telling people (teams and individuals) when they are working well; (4) telling the truth, even if it is unpleasant or painful; (5) encouraging team members to discuss issues openly; (6) asking for the solution to a problem, rather than giving or stating a solution; (7) encouraging teams set a performance goal; (8) providing teams with the information they need; (9) anticipating potential problems (planning); (10) encouraging self-evaluation for teams; (11) training teams in organizational philosophy.

In line with the type of expertise that the coordinator needs to possess, [Stewart et al. \(1999\)](#) state that while technical expertise is useful and appropriate (especially for establishing basic credibility), the social skills of a coordinator are more important. In some cases, a coordinator acts as a consultant and communications facilitator. The type of verbal behavior that a coordinator often shows is reflective questioning, which eliminates the throwing of the burden of judgment and whether the decision rests with the team leader or a team member. A coordinator can work as a daily specialist in developing an applied organization while using time to facilitate a team's ability to manage itself. [Kellogg et al. \(2006, pp. 23-44\)](#) describe cross-linked coordination within an interactive marketing organization. In a rapidly changing organization and work environment with digital equipment, an actor's support is required in a coordination practice based on the use of technology. To accomplish complex, dynamic, and varied work, it is necessary to use technology to coordinate their activities and ideas by crossing the boundaries of their communities.

The results of a study by [Christensen and Laegreid \(2008, pp. 97-116\)](#) on coordination by staff in government institutions show that government employees prefer vertical coordination rather than horizontal coordination. The underlying reason for this is that administrative and political leaders have more formal and influential control in vertical than in horizontal organizations. But the significance of cultural variables for mutual trust in coordination suggests that coordination is not merely about structural design but also about whether government employees feel they have worked according to the same cultural values and norms. Thus the level of mutual trust among employees at the lower level tends to cause problems in coordination.

According to [Osifo \(2012\)](#), the coordination relationship with the organization is important both internally and externally. They also have a reciprocal relationship. Organizations have never existed in a vacuum, so there needs to be coordination to bind the components that exist within the organization so that they can function effectively. Internally, due to the role of coordination within the organization, there emerges cooperation formed through participation, transparency, motivation and satisfaction. Externally, the role of coordination in organizational settings is to set the right vision and focus for the organization.

[Kleinbaum, Stuart, & Tushman, M. L \(2008\)](#) reveal that within complex organizations it is virtually impossible to coordinate among large organizational units without extensive interaction between middle management and technical personnel. On the other hand, [Verbij \(2008\)](#) says that cross-sectoral coordination, especially in forestry policy, requires broader involvement of actors and a shift towards coordination mechanisms in the form of networks. Coordination of policy can take place in a complex pattern and process of interaction among the various actors available to build consensus through information and strategy persuasion.

According to [Berger \(1994\)](#), there is a mutually reinforcing process of change in organizational change management: 1) com-

mitment (motivation), 2) coordination (behavior), and 3) competence (skill). These three aspects are illustrated in the figure below:

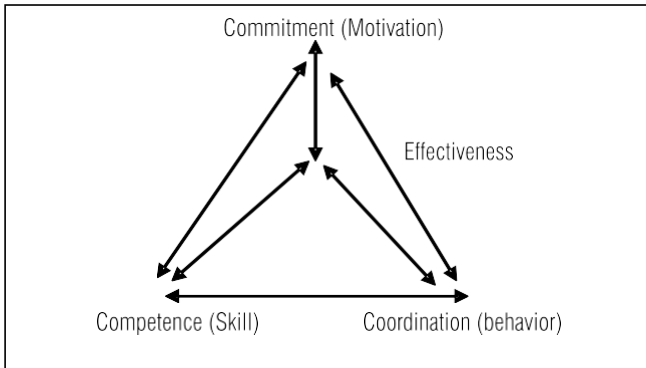


FIGURE 2. A MUTUALLY REINFORCING CYCLE OF CHANGE(BERGER, 1994).

The figure shows that when a problem arises within an organization, there is a commitment to change, by defining problems and constraints of effectiveness, through coordination and teamwork. When a problem has been resolved and there has been a change in the effectiveness of team members, each individual and the group as a whole are motivated to learn new interpersonal skills and communication skills.

RESEARCH METHOD

This study is an action research based on Soft Systems Methodology (SSM). An SSM-based action research study is a combination of real-world exploration at the level of reality and real-world exploration at the level of actuality as stated by [Hardjosukarto \(2012\)](#) and [Uchiyama \(2009\)](#). This study is in the scope of the interpretivism paradigm, as expressed by Flood and Jackson after Holwell (in [Hardjosukarto, 2012](#)). The SSM approach is appropriate for research looking at the world (social) as complex, problematic, and mysterious, characterized by a viewpoint debate ([Checkland & Poulter, 2006](#)). Primary data were collected through in-depth interview techniques, focus group

discussion (FGD), and observation. Secondary data were collected through documentation or literature studies. The data were obtained and collected from the field through in-depth interviews, which were recorded using a tape recorder. The recorded data are then transcribed to obtain the information obtained from these records. The coding as well as the categories of data were administered to facilitate the data analysis.

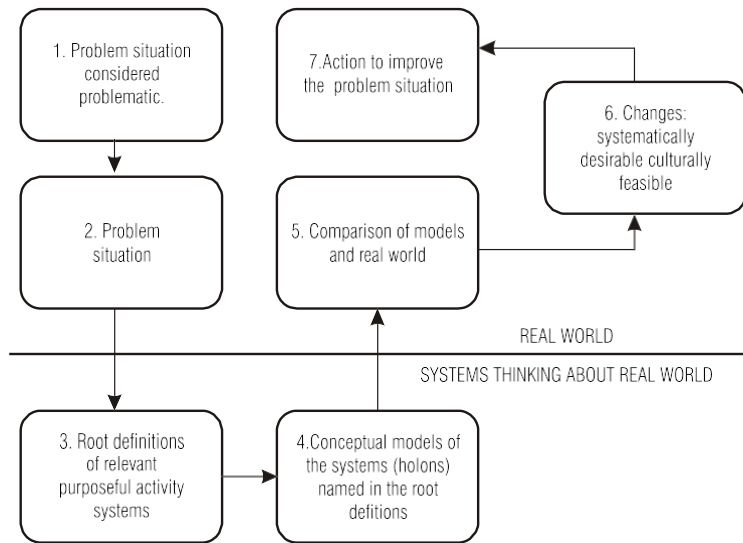


FIGURE 3. THE SEVEN-STAGE MODEL OF SSM (CHECKLAND & SCHOLES, 1990).

In understanding a complete picture of the human activity systems (HASs) regarding coordination in the management of the protected forest, the researchers conducted the study in accordance with the standard cycle in the process of SSM (Checkland & Scholes, 1990). These consist of seven stages of activity grouped into two domains, namely the domain of the real world and systems thinking about the real world as shown in Figure 3. The seven stages of these activities are: (1) Problem considered a problematic situation; (2) Problem situation expressed; (3) Root definitions of relevant purposeful activity system; (4) Conceptual models of the systems named in the root definitions;

(5) Comparison of models and real world; (6) Changes systematically desirable, culturally feasible; and (7) Action to improve the problem situation. This study is only up to the sixth stage, and this condition is possible in the application of SSM to conduct the study. The stages of SSM can be seen in Figure 3.

RESULT

1. THE PROCESS OF ENQUIRY BY USING SSM

Phase numbers 1, 2, 5, 6, and 7 in SSM are activities in the real world, including the stream of cultural inquiry, while stages 3 and 4 are included in the stream of logic-based inquiry ([Checkland & Scholes, 1990](#)). The first stage is the determination of the coordination problems in the management of protected forest that are considered complex and problematic. The second stage is creating a rich picture that is an overview of the coordination problems. There are some conditions in developing this rich picture: intervention analysis and analysis of social and political. Three groups play a major role in the intervention analysis: 1) client, 2) problem solvers, and 3) problem owners ([Hardjosukarto, 2012](#)). The client is the researcher, the problem solvers are the researchers, and the problem owners are stakeholders involved in the management of protected forests such as the institutions in forestry, Wonosobo Regency, or the Forest Village Community Institution (Lembaga Masyarakat Desa Hutan=LMDH). Social analysis considers the role, norms, and values that are interconnected regarding the implementation of coordination in the management of protected forest in Wonosobo Regency. Political analysis is related to the authority or power in playing an important role in coordinating the management of protected forest in Wonosobo Regency.

A series of interviews are conducted with the stakeholders associated with the research related to coordination of the management of protected forest. In addition, a series of focus group discussions (FGDs) is held during the implementation of the SSM cycle to establish the results of data collection in field re-

search. Following a series of these activities in SSM, in the second SSM cycle a rich picture is created to illustrate the complexity of the implementation of coordination in the management of protected forest in Wonosobo Regency.

In the third stage of the SSM (the stream of logic-based inquiry), a “root definition” is created as a description of structured human activity systems relevant to the problematic situation regarding coordination in the management of protected forest in Wonosobo Regency. The root definition is:

A system that is owned and managed by Perhutani in Wonosobo Regency to achieve coordination through inter-agency communication and interaction related to the management of protected forest in order to ensure the effectiveness of coordination in the management of protected forest.

Root definitions are created as a platform to create a conceptual model of purposeful activity systems (stages 4 to SSM). The root definition is tested with a tool called the CATWOE (C/ Customers: Perhutani and stakeholders; A/Actors: Perhutani; T/ Transformation: Less effective coordination becomes more ef-

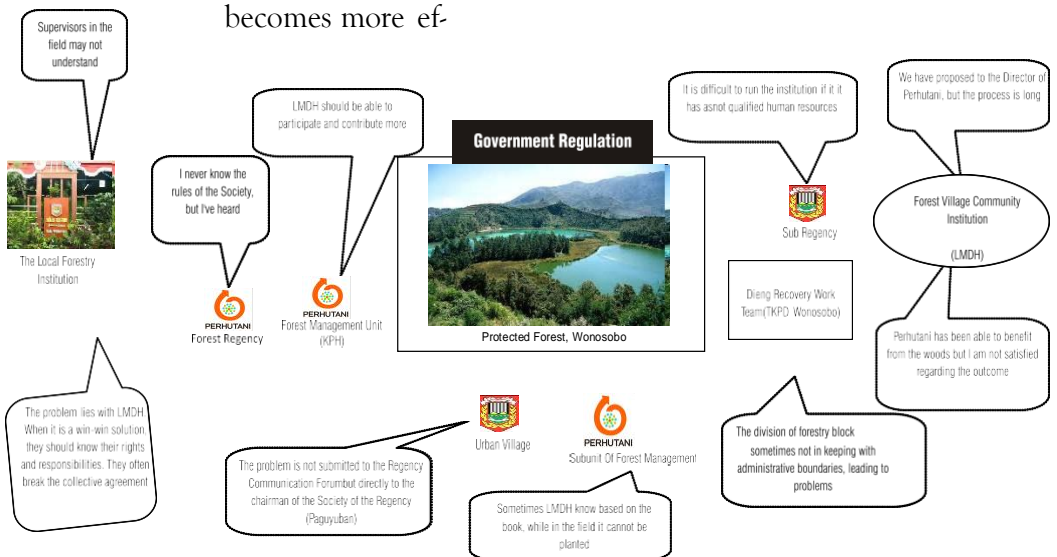


FIGURE 4. PROTECTED FOREST MANAGEMENT (AUTHOR, 2017).

fective; W/Worldview: Communication and interaction in coordination are very important in the management of protected forest; O/Owners: *Perhutani*; E/Environmental constraints: budget, bureaucratic barriers, time constraints, and human resources).

After having a discussion with stakeholders, a conceptual model of coordination is created through the implementation of a system of communication and interaction based on the root definitions. The conceptual model in this study is not an imitation of the real condition of an object, but merely an intellectual tool for SSM practitioners to hold a discussion or dialogue about problematic situations in the coordination of the management

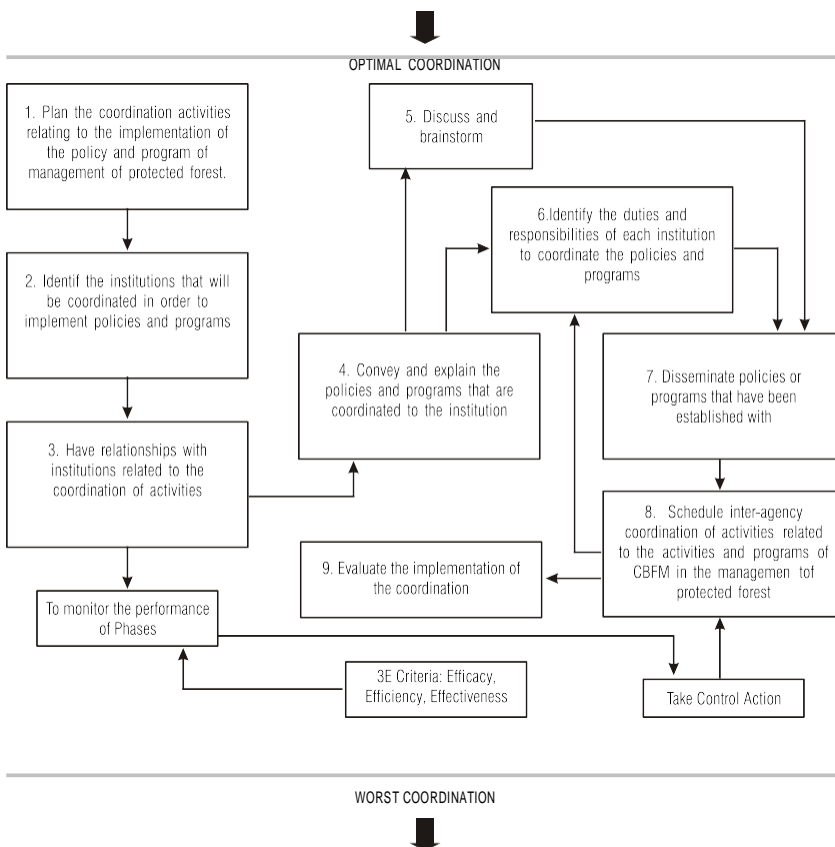


FIGURE 5. THE CONCEPTUAL MODEL OF COORDINATION IMPLEMENTATION (AUTHOR, 2017).

of protected forest. The conceptual model illustrates the implementation of communication and interaction in implementing the coordination of protected forest. The conceptual model of the system of communication and interaction in the coordination of protected forest is shown in Figure 3.

The conceptual model above illustrates the implementation of communication and interaction in order to implement the coordination of protected forest. Planning is a plan about the coordination activities relating to the implementation of the management of protected forest program, while identification refers to the agency or institution that will be coordinated in order to implement the policies and programs. The activities are also carried out in a relationship with an institution related to the activities of coordination. After identifying and establishing relationships with institutions, the next activity is to deliver and explain the policies and programs that are coordinated to the relevant institutions. Further action is to have a discussion and brainstorm. Identification is also carried out regarding the duties and responsibilities of each institution in order to coordinate policies and programs.

Next is to arrange scheduled inter-agency coordination activities related to the activities and programs in the management of protected forest. Monitoring the performance is implemented against anything that has been achieved in each of these activities with reference to the establishment of performance criterion 3E (Efficacy, Efficiency, and Effectiveness), as follows: a). E/Efficacy: Coordination can take place within the framework of the implementation of protected forest management policies; b). E/Efficiency: Minimum use of resources (human resources, budget, facilities, and infrastructure) in the coordination of the management of protected forest; and). E/Effectiveness: Achieving an increase of less effective coordination becomes more effective coordination. All of these are done in a series of control measures for the performance of the transformation process that goes from activity number 1 to activity number 9 (see Figure 3).

TABLE 1. COMPARING CONCEPTUAL MODEL AND REAL WORLD

No	Conceptual Model	Real World Existence?	How?	Who?	Good/Bad?	Alternative
1	To plan the coordination activities relating to the implementation of the policy and program of management of protected forest	ever	Internal meeting	PERHUTANI	less effective	Requires analysis of cooperative activities that will be carried out more comprehensively with other institutions related to the management of protected forest
2	To identify the institutions that will be coordinated in order to implement policies and programs	ever	Internal meeting	PERHUTANI	less effective	Requires the role of the institution in coordination so it is easier in managing protected forest
3	To have relationships with institutions related to the coordination of activities	ever	Internal meeting	PERHUTANI	less effective	Require more comprehensive cooperation activities with other institutions related to the management of protected forest
4	To convey and explain the policies and programs that are coordinated to the institution	ever	Internal meeting	Forest village Institutions (LMDH) Local Gov. NGO	less effective	Determine appropriate ways and strategies in the delivery of protected forest management policy to another institution
5	To discuss and brainstorm	ever	Internal meeting	Forest village Institutions (LMDH) Local Gov. NGO	less effective	Need deeper intensity in the implementation of brainstorming
6	To identify the duties and responsibilities of each institution to coordinate the policies and programs	ever	Internal meeting	PERHUTANI Forest village Institutions (LMDH) Local Gov. NGO	less effective	Require more detail information regarding the duties and responsibilities of each institution. Necessary human resources to better understand and master the problems in the management of protected forest
7	To disseminate policies or programs that have been established with	ever	Internal meeting	PERHUTANI	less effective	Require more in-depth intensity and precision about the socialization policy
8	To schedule inter-agency coordination of activities related to the activities and programs in the management of protected forest	ever	Internal meeting	Forest village Institutions (LMDH) Local Gov. NGO	less effective	Require agreements and seriousness of institutions related to structured schedule of activities for better coordination
9	To evaluate the implementation of the coordination	ever	Internal meeting	Forest village Institutions (LMDH) Local Gov. NGO	less effective	Require reevaluation of more comprehensive coordination

Source: Compiled by the Author (2017).

2. COMPARING CONCEPTUAL MODEL AND REAL WORLD

After using the nine activities contained in the conceptual model as previously described (Figure 3), we then move to the fifth stage of SSM, which is to do a comparison between the conceptual model and the real world. The definition of the real world is the reality concerning the implementation of coordination in the management of protected forest. The comparison can be seen in Table 1.

DISCUSSION AND IMPLICATIONS

Activity in coordination requires information, but sometimes information is not received by the party in need. This condition is encountered by an official in the Forest Management Resort (*Resor Pemangkuan Hutan/RPH*), Wonosobo Regency, who is involved in the management of protected forest in Wonosobo Regency, as he says:

“I do not know about the regulation concerning the association (Paguyuban), but I’ve heard it is at the Unit level or Unitary Forestry Unit (Kesatuan Pemangkuan Hutan/KPH). This indicates that information about the existence of an activity related to the regulation concerning the association (Paguyuban) is not yet fully known by Perhutani officials.”

Perum Perhutani, which has authority in the management of protected forest, sometimes in the implementation of its activity does not invite the local government of Wonosobo Regency, whereas there are people living in the *Perhutani* area, which is the responsibility of local government. The empowerment of protected forest villagers in Wonosobo Regency has not been synergic between *Perum Perhutani* and local government, where each side has its own way. This is in line with the statement by the Wonosobo District Forestry and Plantation Officer (*Dinas Kehutanan dan Perkebunan*): “*Perhutani* has forest villagers as a target, but sometimes in its implementation *Perhutani* often leaves us.”

In the relationship between Perhutani and the Forest Village Community Institution (*Lembaga Desa Desa Hutan/LMDH*), there is still a problem, especially concerning the plots or blocks of land cultivation of Perhutani conducted by the LMDH. One of the members of the Dieng Area Recovery Working Team (*Tim Kerja Pemulihan Dieng*) said: “The existing blocks are sometimes owned by two LMDHs, where the division of the Perhutani block does not fit the borderlines of the government administration, so the borderlines are often the problems.”

In terms of human resources at the LMDH level, this is still a barrier of its own. This was stated by one of the sub-district heads (*Camat*) in Wonosobo Regency:

“In terms of coordination, in fact it concerns the issue of human resources (HR). To mobilize an institution, adequate human resources are needed. With ordinary human resources, it is difficult to implement an organization. To drive an institution requires qualified human resources. If we are still mediocre with such human resources, I say yes it is difficult to run an institution.”

On the other hand, there is an urban village head (*Lurah*) who expresses his opinion on the coordination problem occurring in the context of forest management:

“In addition to the lack of coordination at the district level, coordination in Kecamatan is also not through the Kecamatan Communication Forum but directly addressed to the Chairman of the Paguyuban at the Kabupaten Communication Forum. The low level of human resource education, resulting in a notion of forest management and utilization, has not been adequately understood.”

The same thing was said by one of the NGO leaders in Wonosobo Regency. He said that in the existing forest management in the Wonosobo district, there is a coordination forum owned by the government of Wonosobo Regency called the Wonosobo Forest Forum (*Forum Hutan Wonosobo*). However, the forum, whose duties, among others, include the coordination of various parties related to the management of protected forests in Wonosobo Regency, has not been able to run maximally. This

was revealed by one NGO in the Wonosobo Regency:

“Okay, the main problem is how the community can get involved in the Wonosobo Forest Forum (FHW). It needs to be realized how the forum facilitates and evaluates the activities of Community Collaborative Forest Management (Pengelolaan Hutan Bersama Masyarakat) in Wonosobo in particular, both in cooperation and in joint forest management.”

In addition, there is still uncertainty about the settlement of the cooperation agreement (Perjanjian Kerja Sama/PKS) between the LMDH and Perum Perhutani. This was revealed by one of the employees of LMDH Kabupaten Wonosobo:

“Perhutani actually has a green forest or forest conservation, but unfortunately in the sharing of cooperation, I am in even less agreement. It also takes a long time to complete the process of our proposed cooperation agreement.”

The above problems raise the need for an improvement in the framework of coordination by Perum Perhutani. Therefore, the conceptual model for improving coordination consists of a series of activities as follows: (1) planning coordination activities related to the implementation of protected forest management policies and programs; (2) identifying the institutions to be coordinated in the implementation of policies and programs; (3) delivering and explaining policies and programs coordinated to the institution; (4) Conducting brainstorming discussions; (5) identifying the duties and responsibilities of each; (6) preparing a schedule of anti-institutional coordination activities related to PHBM activities and programs in the management of protected forests; (7) Conducting evaluation of inter-institutional coordination implementation.

The reflection of the theory related to coordination in the context of protected forest management according to [Witzel \(2004\)](#) is that coordination is inseparable from the control aspect, because in order for coordination to run effectively it is necessary to control the coordination that has been done. According to [Bolman and Deal \(1991\)](#), the organization’s efforts in

achieving coordination and control are formally carried out in two ways: First, vertically; coordination activities are conducted through a command mechanism, supervision, policy, rules, planning, and a control system; secondly, laterally; coordination activities are carried out through meetings, task forces, standing committees, special coordinating roles, or matrix structures. With regard to the role of a person in coordinating within an organization, [Stewart et al. \(1999\)](#) state that there is no formal guidance on the duties of a coordinator, but a coordinator behaves more in keeping with social conventions than structured rules. The main role of public servants is not simply to respond to the demands of society, but to focus on building trust and cooperation relationships with and among citizens ([Denhardt & Denhardt, 2007](#)). The program will run well if all the individuals involved in the implementation of the program know the basic purpose of implementing the program. Therefore, socialization is very important for the members involved in the implementation of the program so they know the purpose of program implementation ([Osborne & Gaebler, 1992](#)).

CHANGES FOR SYSTEMATICALLY DESIRABLE AND CULTURALLY FEASIBLE

There are seven stages in SSM but this study only implemented up to the six stages of the recommended changes, without having to take action. These conditions are due to time and budget constraints to taking action regarding changes expected by all parties involved in the implementation of coordination in the management of protected forest. From the previous discussion, there are several recommendations that need to be followed so that coordination in the management of protected forest can be more effective, especially regarding communication and interaction systems in the implementation of the coordination. First, there is a need more comprehensive analysis regarding cooperative activities to be carried out among different institutions involved in the coordination of the implementation of protected

forest. Second, a deeper intensity is required during brainstorming. Third, we need more complete and detailed information on the duties and responsibilities of each institution. Fourth, we need more suitable human resources who understand the problems in the management of protected forest. Fifth, policy on protected forest rights needs to be disseminated to the appropriate targets. Sixth, attention needs to be given to the schedule for the implementation of coordination among related institutions.

CONCLUSION

From this study, it can be concluded that the SSM approach can be used to find ways to change to improve a situation that is considered problematic and where it is not intended to find a solid solution to solve the problem.

[Checkland and Poulter \(2006\)](#) argued that the SSM approach should be appropriately used for research that views the social world as complex and problematic as well as for real-world exploration at the level of reality with real-world exploration at the actuality level ([Hardjosukarto, 2012](#)). Through the stages of SSM a formula for change can be developed by stakeholders so that rearrangement of coordination can be more effective in the management of protected forest in Wonosobo Regency.

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