Implementation of inter-organizational network in controlling forest and land fires in Rokan Hilir Regency, Riau Province

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Abstract. This study aims to examine and analyze the implementation of inter-organizational networks in controlling forest and land fires in Rokan Hilir Regency. This research was carried out in Riau Province, especially in Rokan Hilir Regency, using a qualitative method. The results showed that forest and land fires that occurred in Rokan Hilir Regency were more common in company plantations and the rest from community plantations. The implementation of the inter-organizational network in controlling forest and land fires in Rokan Hilir Regency is in the form of standard and objectives, resources policy, inter-organizational communication, disposition (characteristic of the implementing agencies). The recommendation from this research is to control forest and land fires in Rokan Hilir Regency.

1. Introduction

Burned peatlands also occur in Riau Province, which is vulnerable to land and forest fires. The frequency of forest and land fires is still high in 2019, nearly as severe as 2015. Based on data released by BMKG Pekanbaru Station in 2020 [1], the most hotspots or hotspots are in the Pelalawan district. Figure 1 shows the number of hotspots in Riau Province in 2020.

![Figure 1. Number of hotspots in Riau Province in 2020 (Source: BMKG Pekanbaru Station [2])]
The number of hotspots in Riau Province has caused many respiratory infections suffered by the community, as shown in Figure 2.

![Figure 2. The number of forests and land fire victims in the Province of Riau, Indonesia. Data from Riau Provincial Health Office in 2020.](image)

In addition to the health impacts that arise from forest and land fires, what is no less important is the destruction of ecosystems that are important for human survival in the form of clean air and water and disruption of public health, both toddlers and adults. Figure 3 shows the number of forest fire victims.

![Figure 3. The number of forest fire victims. Data from Riau Provincial Health Office in 2020](image)

The network theory is based on interdependence relationships between actors. Goldsmith and William [2] stated: “Organizations tend to process based on rules and routines, inter-organizational processes are often based on personal relationships and are therefore prone to breakdown, changing their priorities as individuals. The importance of individuals for managing inter-organizational relationships is often not recognized in organizations in terms of career advancement. Organizational networks, which play the role of creating and maintaining relationships between organizations, also tend to develop as networks that become more complex”.

Barber and Schweithelm [3] suggest that weaknesses in the follow-up and enforcement of the
game's rules are related to weaknesses on the side of institutional control, namely the organization. Land and forest fire management organizations involving many government agencies or organizations at the national, provincial, district, sub-district, to village level, require an organizational system that works in an integrated and harmonious manner to be effective and efficient.

The description above identifies problems related to forest and land fire management strategies through inter-organizational networks in controlling land and forest fires, causing: (a) Forest fires in the province continue to occur every year. (b) Weak coordination between organizations related to forest and land fire management. (c) A large number of hotspots and hotspots of forest fires in Riau Province. (d) Many inhabitants of Riau Province suffer from respiratory infections (ISPA) in children under five and non-toddlers due to forest fires.

Based on the background description and data written above, the formulation of the research problem is: What is the strategy for overcoming forest and land fires through inter-organizational networks in Rokan Hilir Regency, Riau Province? Referring to the formulation of the problem above, the objectives in this study are: To analyze and describe forest and land fire management strategies through inter-organizational networks in Rokan Hilir Regency, Riau Province.

2. Methods
This research was conducted in Rokan Hilir Regency, Riau Province. The method used uses a qualitative approach considering appropriate to be selected because of the characteristics of qualitative research Cresswell [4]. In this research, the first thing to do is identify the factors causing forest and land fires: (a). The role of the community, government, and stakeholders or companies in understanding peat areas and overcoming forest and land fires (b). Implementing forest and land fire control policies through organizational networks to implement disaster management by the Rokan Hilir Regency, Riau Provincial government.

The informants interviewed were: Head of Forest and Land Fires Division of the Riau Province Forestry Service; Head of Forestry Licensing Division of Forestry Service of Riau Province; Forestry Police Staff; Head of Agriculture and Food Crops Service; DPRD members; Traditional leaders; Plantation Companies; NGOs concerned with forest and land fire; Fire Care Society (MPA).

3. Results and discussion
The results showed that the strategies for controlling forest and land fires through the Inter-Organizational Network in the Rokan Hilir Regency Government of Riau Province were: strategies for overcoming forest and land fires through networks between organizations in the regional government of Rokan Hilir Regency, seen from the organizational structure, coordination between organizations, consistency of programs, and planning and operations in controlling forest and land fires are still experiencing several obstacles, including Organizational Structure, the obstacles faced: Hybrid (mixed / functional-divisional), the structure is temporary (ex officio) so that The work system is incidental. Because it is a combination of several agencies, it can be more flexible, but the authority and roles of each agency have not been implemented.

Inter-organizational coordination, the obstacle faced is that coordination is only in sharing information when a fire occurs, and coordination between organizations has not yet reached the prevention and recovery stages after fire [5]. Next is Program Consistency. The obstacles faced: The forest and land fire control program has not been consistently implemented as a whole (prevention, suppression, and recovery). The constraints faced for Planning and Operational Strategies: Planning procedures are not clearly described because the forest and land fire Command Post is only incidental.

The results of research related to Inter-Organization Networks in Local Governments in Controlling Land and Forest Fires in Rokan Hilir showed that four indicators could be used to conduct research that focuses on inter-organizational networks [6]. The four indicators are Organizational Structure, Organizational Coordination, Program Consistency, Planning and Operational Procedures. Where the results of research using these four indicators are the inter-organizational network in the Rokan Hilir Regency Government that has not been successfully implemented, causing an increase in
the number of hotspots in 2020.

Organizations—in this case, government organizations—are assumed to be organized and run institutions. This assumption emphasizes structure and process. In the context of traditional organizations, the assumptions on the structural aspect relate to the elements: (a) the need for a committee system, (b) division of work units (departmentalism), and (c) centralized control (centralization). While the process aspect (ways of working) contains a set of assumptions: (a) can stand alone (autonomy), (b) uniformity, (c) direct control, (d) professionalism, and (e) formal accountability (formalities of accountability).

The problems of forest and land fires in the regions are responded to more reactively, which can be seen, among others, by the division of task forces in local government agencies that focus on extinguishing fires. Meanwhile, aspects of prevention, restoration, and conservation tend to receive less attention. If there is, it seems to be "handed over" to the relevant agency, namely DLH, which does have a recovery and conservation section. The field and section within DLH itself cannot carry out the program effectively.

The reason or obstacle that sticks out in connection with this is related to the availability of funding for its implementation borne by each agency which is admittedly still limited because the proportion must be shared with program activities in other fields. This fact (the program for prevention, recovery, and preservation is not yet optimal) also occurs and is acknowledged by informants from other agencies.

Furthermore, in the structure aspect, not all agencies have a structural division or sub-section that specifically oversees/has a program for handling forest and land fires. Another impact is that no permanent personnel (permanent and special employees) are administratively and bureaucratically responsible for handling forest and land fires.

The main organizational and structural barriers are bureaucratic inertia, and the absence of innovation on the side of public management and strategic policies related to forest and land fires issues in the regions. Local governments and government agencies tend to be inert in responding to situations and lack the courage to take change initiatives. This is because government agencies are strict in obeying bureaucratic and administrative rules and being "reluctant" to act if no legal/rule umbrella allows them to take action/policy.

Based on the condition of the organizational structure, it is known the theory of Steve Leach and those in the field has not been fully demonstrated to the government of Rokan Hilir Regency in the prevention and control of forest and land fires at this time. Although included in the category of Rokan Hilir Regency government is an organization in a traditional context, but to meet the criteria or indicators of the organizational structure presented by Leach has not been able to be realized, which results in many problems of forest and land control and prevention.

Because it is incidental and involves several agencies in the Rokan Hilir Regency government, the organizational structure in preventing and controlling forest and land fires leads to a hybrid organizational structure, namely a mixed organizational structure between functional and divisional. Cooperation between organizations in fire control has not been effective, either at the national, provincial, or district/city levels. Collaboration is still like coordinating and providing assistance services. The cooperation is not yet a systematic-collaborative network and guarantees an engagement that allows handling and control of work-integrated inter-organizational forest fires (agencies) at the provincial and district/city levels.

In the administrative context, inter-organizational relations have been established quite well at the national level. However, they are still weak at the provincial and district/city levels and between levels. Relations between organizations in the planning aspect at the national level are well established but are still weak at the provincial and district/city levels. And this opens a gap for the existence of "sectoral egos" of each organization/institution.

Meanwhile, the coordination of government bureaucratic relations is characterized by: (1) hierarchical coordination, namely vertical coordination between leaders and members, and (2) functional coordination; coordination carried out by one official to another official or an agency with
other agencies, which tasks are interrelated based on organizational functions with a tendency to hierarchical coordination. And when viewed in terms of actors and the position of the coordinating parties, the type of coordination that takes place can be categorized into three types, namely: (a) Functional Coordination (horizontal/diagonal): between two or more Agencies that have related programs; (b) Institutional Coordination, against several Agencies that handle a particular business concerned; and (c) Territorial Coordination, towards two or more regions with specific programs.

The inter-organizational relationships and coordination that have been carried out have not led to understanding the problems together, identifying problems together, and planning actions to solve problems together to cover more fundamental and comprehensive aspects. Suwitri [7] maps stakeholders into two, namely stakeholder analysis and stakeholder management, distinguishing between the influence and interests of each stakeholder and group stakeholder. Thus, the ongoing coordination has not yet reached the level of coordination in the context of an inter-organizational network that aims to integrate, integrate, and harmonize various interrelated interests and activities to achieve a common goal, namely the success of controlling forest and land fires in an optimal and interest-oriented manner-long-term.

In the context of the inter-organizational network as a model for controlling forest and land fires, the common goal between organizations is nothing but the control of land and forest fires. To be solid as a network, controlling forest and land fires must be a program target for each organization in the inter-organizational network related to controlling forest and land fires. Thus, program consistency and program objectives can make all organizations interrelated and mutually dependent. Therefore, efforts to plan actions to address the problem of forest and land fires in inter-organizational networks to control forest and land fires can occur.

In the early stages, forest fire control should be a program goal for all organizations involved, thus, being interrelated and interdependent. Initially, there were information networks where the exchange of information between organizations could occur. Exchange of information makes interaction more intensive; thus, a more solid network is built at this stage of development networks. After the network is built and becomes more concrete, an outreach network takes place where there is adjustment and adoption of strategic programs between organizations.

Finally, there is an action network where action programs are planned and executed together. This form is the most solid form of inter-organizational network realization. Thus, the suitability or consistency of the program is one of the critical factors in establishing a network between organizations in controlling forest and land fires. This consistency is a condition where related organizations are on the same frequency in planning actions/actions and dealing with forest and land fire problems together as an inter-organizational network. Consistency of program objectives can also mean that organizations have understood the challenges of the problem and formulated their collective goals.

Policies for handling forest and land fires problems oriented to the concept of integration (integrative) have not yet become a central discourse. As a result, overcoming the problem of forest and land fires is still reactive- incidental- partial by emphasizing the focus on firefighting operations and has not seriously addressed other aspects such as early prevention, mitigation of impacts, risk reduction, land restoration, area conservation, protection, and utilization of forest area potential. This condition is because there is no joint strategic planning and program that is long-term oriented and includes managing environmental problems in a synergistic-integrative sustainable manner, thus binding the actors or agencies. Local governments at least carry out integrated actions in controlling forest and land fires in the regions. So that in practice in the field, what has been done and required has not been able to consistently program in the prevention and control of forest and land fires in Rokan Hilir Regency.

4. Conclusion
Forest and land fire prevention strategies through organizational networks in Rokan Hilir Regency, Riau Province, are still not optimal because the regulations related to technical guidelines for
handling/controlling forest and land fires have not been fully implemented. Inter-organizational regulations and budgets have not been maximally integrated, and the social and cultural environment; clearing new land by burning has become a tradition in the community. Another conclusion is due to the low quality of human resources that handle forest and land fire control. The infrastructure is insufficient to carry out renewal and periodic maintenance.

5. Recommendation
There should be changes to the organizational structure of the Land and Forest Fire Emergency Response Command Post Team in Rokan Hilir Regency. If the organizational structure is structured, the main tasks and functions of each agency become clearer. Furthermore, it is crucial to prioritize forest and land fire control programs in Rokan Hilir District, from prevention to extinguishing to post-fire recovery. The local government should massively socialize land clearing by burning, not burning (without burning/zero burnings).

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