Fire care community development in Batanghari District and Tanjung Jabung Timur District in Jambi Province: an overview

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Abstract. This study aims to describe the implementation of Fire Care Community (MPA) development and to identify related problems in Batanghari District and Tanjung Jabung Timur District, Jambi Province. For the purpose of data collection, interviewing Village Government, Brigade Fire Fighting (MA), MPA, Forest Management Unit (KPH), Technical Unit of Conservation on Natural Resources, Provincial Forestry Office, and Non-Governmental Organization are conducted. Most development of the MPA in Jambi is carried out by agencies of the Ministry of Environment and Forestry and several regional agencies. The obstacles on MPA development are the limited number of personnel and budget, wide scope of work areas, and less supportive regulations. The approach that is used by these agencies in the formation of MPAs are directly on community groups not village institutions. This has led to deviations from the purpose of the formation of the MPA which creates a disharmonious relationship between the community and the MPA. Therefore, to strengthen better MPA management, the village approach could be an alternative for increasing the Village Government, MPA and also community in participating on fire control. This can be realized by applying a structural and participatory approach.

1. Introduction

The Indonesian government at a hitherto continues to handle problems of forest and land fires, both with a mitigation and prevention approaches. Prevention efforts should be prioritized because besides the detrimental effects of fires, the firefighting practice is not easy as well as forest and land fire in 2015 in Sumatera Selatan which was only about 971, 85 Ha that could be quenched, or only 19.37% from the burnt area of 5,016.95 Ha (1).

Fires can only be quenched frequently by intensive rainfall, especially fires on peatlands(2). As the 2015 massive forest fires where the total burnt area reached 2,611,409 ha (3) it could end perfectly when the rainy season arrives.

The Forest and Land Fire Control must involve all parties and must be conducted synergistically (4)(5), including involving the role of the community (6)(7). The community involvement, especially in rural or urban areas that are vulnerable to the forest and land fires, becomes important remembering that the community as the closest party to the occurrence of forest and land fires. In addition, the community reflects the party who are directly affected the fire (3) or sometimes even as an actor of the
fire (8)(4). The community has the potential to have an important part in controlling forest and land fires at the site level (6)(7). Specifically, communities who live in fire-prone region have the probability to organize themselves and contribute greatly in controlling forest and land fire by collaborating with the government and private sectors(9). Therefore, community involvement in fire control is the government's concern.

One of the community participation forms in controlling forest and land fires is through Fire Care Community Program (MPA) (4)(5) that was initially launched by the Ministry of Forestry of Republic Indonesia in 2003. It still continues to be formed in a new group formation and also in group coaching heretofore. This effort was also implemented by local governments, companies and Non-Government Organization (NGO) through with different terms especially in the eight fire-prone provinces in Indonesia.

Jambi Province is one of the fire-prone provinces. During 2015-2018 in Jambi Province, based on the observation of Terra / Aqua Satellite with confidence level ≥80% the hotspot reached 2,909 hotspots, while the fire area reached 125,416 ha, still in the same period.

Batanghari District and Tanjung Jabung Timur District are included in fire-prone districts in Jambi Province. There are 35 fire-prone villages in Batanghari District and 37 villages are in Tanjung Jabung Timur District. In this regard, it raises a question about how the implementation of MPA development in Jambi and its problems are. This paper presents a description of MPA development and its problems in Jambi, especially in Batanghari District and Tanjung Timur District and at the end of the paper, there are recommendations in the form of a village approach as an effort to improve MPA management.

2. Research Methodology

2.1. Research Method

This research is designed implementing a case study approach. This approach is conducted by selecting one phenomenon or more using various data sources from observations, interviews, and document analysis(10). Those case study are chosen with consideration of exploring in depth about the implementation of MPA development and its problems.

Generally, case studies provide researchers broad access and opportunities to examine in depth, in detail, intensive, opportunities to examine the observed objects thoroughly. Case studies can also provide important information about relationships between variables, as well as processes that require broader explanation and understanding. In addition, case studies can present very useful data and findings as a basis for establishing the background of the problem (11).

The informants who are interviewed are heads of the MPA and its members, Manggala Agni at DAOPS Bukit Tempurung and DAOPS Muara Bulian, Technical Unit of Conservation on Natural Resources of Jambi Province, Village Government in Catur Rahayu, Jati Mulyo, Pematang Rahim, Tenam; Jambi Provincial Forestry Service, Forest Management Unit XXIV Tanjung Jabung Timur, Forest Management KPHP Batanghari, and KKI WARSII (local NGO). DAOPS Bukit Tempurung part of its working area covers Tanjung Jabung Timur District, while DAOPS Muara Bulian working area covers Batanghari District. Data collection are collected using interview technique, field observations and also literature analysis such as annual reports and village profiles.

Qualitative and descriptive data analysis is applied in this research. This analysis aims to describe, summarize various conditions, situations and social reality phenomena that exist in the society as the object of this research and attempt to raise the reality to the surface as a characteristic, character, trait, model, sign or picture of certain conditions, situations or phenomena (12).

2.2. Research Location

Jambi Province is one of the fire-prone provinces in Indonesia. Batanghari District and Tanjung Jabung Timur Districts are selected because they are included fire-prone districts with different characteristics. Batanghari District has 5,804 km2 land covered mostly with mineral soils. While Tanjung Jabung Timur District has 5,445 km2 which is most covered with peat. Other consideration is
that the formation of MPAs, especially in Batanghari District, has historically been formed with a background as villages supporting conservation areas or protected areas that have implications for the development of the MPA group as an organization. This study was conducted in August-September 2019.

2.3. Description of fires in Jambi
Up to now, hotspots have been used as indicators of fire occurrences, although hotspots are recorded in satellite imagery and do not always indicate a fire. But usually, if a number of hotspots are clustered, accompanied with smoke and being monitored repeatedly, it could indicate the occurrence of fires in the area (13). Thus the hotspot data is still used as the most effective way to monitor fires for large areas quickly or in nearly real time.

Based on official reports on hotspot and burnt areas provided by the Ministry of Environment and Forestry, the amount of hotspots and burnt areas in Jambi Province during the periods of 2015-2018 was described in figure 1. In 2015, the highest hot spot happened with 2,793 hotspots. The amount of hotspots decreased until 2018. In 2016 there were only 14 hotspots, 26 hotspots were recorded in 2017, and in 2018, there were 76 hotspots. Based on the highest hotspots recorded in 2015 and burnt area was estimated around 115,634 ha. Then it has decreased until 2018. In 2016 is around 8,282 ha, in 2017 is around 109 ha and in 2018 is around 1.391 ha.

![Figure 1. Hotspot and burnt area in Jambi Province during periods of 2015-2018](source: Report on Forest and Land Controlling August 12, 2019(Directorate of Forest and Land Fire Controlling, 2019)

Based on official report on disaster in Jambi Province, in 2018 forest and land fires were stated as the most common disasters besides floods, landslides, tides, windstorms and settlement fires, which was approximately 325 times occurred in that year. In 2018, fires occurred in all districts in the province of Jambi, except in the city of Jambi. Based on the interpretation of satellite images, most hotspots are found in Muaro Jambi district with around 67 hotspots. The largest burnt area is estimated around 324 ha located in Batanghari district (figure 2). Fire occurrences in Jambi province in 2018 were different from the year 2014. At that time, fires only occurred in 5 districts namely Tebo, Batanghari, Muaro Jambi, Tanjung Jabung Timur and Tanjung Jabung Barat.
Based on reports from DAOPS Muara Bulian which the working area covers Batanghari district, fires generally occur outside the forest areas with mineral soil types in 2018. Manggala Agni Brigade could extinguish the fires at 29.1 hectares. In Tanjung Jabung Timur District, in July 2019, fires occurred in peatland area that is located outside the forest areas. Referring to the burnt area of 86.5 ha in Tanjung Jabung Timur District, it is only 24 hectares area that can be extinguished by Manggala Agni Brigade of DAOPS Bukit Tempurung.

3. Implementation of Fire Care Community Development
Development of Fire Care Community (MPA) in Batanghari District and Tanjung Jabung Timur Districts have been conducted by several agencies, specifically Technical Unit of Conservation on Natural Resources /BKSDA Jambi, Technical Unit of Climate Change and Forest and Land Fire Control/BPPIKHL Sumatera (in this case DAOPS Manggala Agni), Jambi Provincial Forestry Services, Plantation / Forestry Companies, and KKI WARSI. MPA development includes establishment and accompaniment activities aiming to involve community participation in fire control at their village and its surrounding.

Initially, MPA was formed by BKSDA Jambi and became part of village inclusion program in the management of conservation area. Those villages bordering conservation zone are expected to take a role in protection of conservation area and biodiversity. The formation MPA in those villages are formed as an anticipation of fires occurrences surrounding the conservation area. Generally, one MPA is established in each DAOP, even though it can be formed more than one MPA at the same village, e.g. Jangga Baru Village, Bathin XXIV Sub-district depending on the villager’s enthusiasm. Those groups can be seen in Table 1.

| District         | Village (Sub-district) | Name      | Number of personel | Year of establishment |
|------------------|------------------------|-----------|---------------------|-----------------------|
| Batanghari       | Jangga Baru (Bathin XXIV) | Adi Guna  | 22                  | 2006                  |
|                  | Jangga Baru (Bathin XXIV) | Adi Karya  | 22                  | 2006                  |
|                  | Sridadi (Muara Bulian)  | Sri Api   | 15                  | 2009                  |
|                  | Tenam (Muara Bulian)    | Paten Peda | 15                  | 2009                  |
|                  | Singo Jayo (Muara Tembesi) | Jebak    | 30                  | 2011                  |
According to Table 1, there are 5 (five) MPA groups in Batanghari District which were formed in period 2006 - 2011, while in Tanjung Jabung Timur, 8 (eight) MPA were established in 2007 - 2012. Ideally, every MPA consists of 15 personnels such as the standard number of MPA’s personnel under MOEF regulation. The number of the personnels depends on the communities’ response dan readiness, some of MPA in Batanghari have more than 15 personnel members.

MPA formation relates to the determination of fire-prone village. The number of fire-prone village in both districts are relatively the same in 35 villages in Batanghari and 37 villages in Tanjung Jabung Timur. Determination of those fire-prone villages bases on the decision of the Director of Forest and Land Fire Control No. SK.9/PKHL/PPL.4/2/2018 concerning on Villages of Forest and Land Fire-Prone. Amongst the 35 fire-prone villages in Batanghari, it is only 2 villages that have MPA group facilitated by BKSDA namely Sri Dadi and Jebak, while Tanjung Jabung Timur has 3 MPA: in Sungai Rambut, Jati Mulyo, and Pandan Sejahtera Villages. The other villages which MPA exist are not included to fire-prone villages. This condition associates to the history of MPA’s formation in the districts that the villages are included to buffer zone of conservation area and used to have fire occurrences.

Other stakeholders also contribute on MPA establishment; one of those is KKI WARSI which facilitates the development of MPA in Kota Kandis Dendang, Sinar Wajo, Pematang Rahim, and Sungai Beras Villages. Beside that, private sectors also encourage communities’ participation in fire control. Furthermore, this community is educated and trained both theory and practice of fires control by Manggala Agni (MOEF). The MPA which are facilitated by private sectors and trained by Manggala Agni is presented in Table 2.

### Table 2. List of MPA formed by private sectors in Jambi Province untill 2019

| No | Stakeholder | Number of MPA had been trained | Training Year |
|----|-------------|--------------------------------|---------------|
| 1  | PT.REKI     | 4                              | 2009          |
| 2  | PT.Inti Indosawit Subur (PT. IIS) | 2 | 2013 |
| 3  | PT. Berkat Sawit Utama (PT. BSU) | 3 | 2014 |
| 4  | PT.Putra Muda Brother (PT. PMB) | 2 | 2016 |
| 5  | PT. Darmasraya Palm Sejahtera (PT.DPS) | 2 | 2016 |
| 6  | PT. REKI Hutan Harapan | 4 | 2017 |
| 7  | PT. Berkat Sawit Utama (PT. BSU) | 4 | 2017 |

Source: The first semester report in 2019 (Daops Muara Bulian, 2019)

Information that can be summarised from table 2 are that the number of MPA which are facilitated by private sectors, concurrently educated and trained by MPA, show bit various; the number ranges between 2 - 4 groups and the training is not conducted periodically every year.

Provincial Forestry Service of Jambi has also formed MPAs in several districts especially in Bungo, Tanjung Jabung Barat and Kerinci, while in Batanghari and Tanjung Jabung Timur District, there are not any facilitation for the formation and development of MPA yet. Those facilitations have become
part of KPH’s tasks along with the establishment of KPH Batanghari and KPH Tanjung Jabung Timur since the year of 2016. Unfortunately, in practice, although those KPHs were institutionised in 2016, but they effectively start operating in 2018 and its long-term document plan (RPHJP) have not been ratified yet. Development of MPA that has been facilitated by Provincial Forestry Service of Jambi in 2018 can be seen in Table 3.

**Table 3.** List of MPA facilitated by Provincial Forestry Service of Jambi in 2018

| No | Location | Number of personnel |
|----|-----------|---------------------|
| 1  | Bungo Desa Renah Sungai Ipuh, Kec. Limbur, Lubuk Mengkuang | 15 |
| 2  | Bungo Desa Rantau Tipu, Kec. Limbur Lubuk Mengkuang | 15 |
| 3  | Tanjung Jabung Barat Desa Panoban, Kec. Batang Asam | 15 |
| 4  | Bungo Desa Sungai Beringin, Kec. Pelepat | 15 |
| 5  | Bungo Desa Sekampil, Kec. Pelepat | 15 |
| 6  | Kerinci Pengelola Hutan Adat Tigo Luhah Kemantan | 15 |

Source: Report on activities of fire and land controlling section (Provincial forestry service office of Jambi, 2018)

Data presented in table 3 show the formation of MPA that have been conducted in 3 districts: Bungo, Tanjung Jabung Barat, and Kerinci Districts. However Kerinci District is not incorporated as a district with fire-prone village within, there has existed community of MPA since 2018 namely Pengelolaan Hutan Adat Tigo Luhah Kemantan which is encouraged by a prior occurrence of fires.

**4. Analysis of role and obstacle in development of MPA**

There are several parties contributing the development of MPA in Jambi Province, especially in Batanghari and Tanjung Jabung Timur Districts; among others are Technical Unit of Conservation on Natural Resources /BKSDA Jambi, Technical Unit of Climate Change and Forest and Land Fire Control/BPPKHL Sumatera, DAOPS MA Bukit Tempurung, DAOPS MA Muara Bulian, Provincial Forestry Services of Jambi, KPH Tanjung Jabung Timur, KPH Batanghari, NGO KKI WARS, and Plantation / Forestry Companies. Supports delivered by those parties and any detentions based on their perspective are presented in table 4.

**Table 4.** Role of parties and their obstacle in the development of MPA in Jambi Province

| No | Stakeholder | Role | Obstacle |
|----|-------------|------|----------|
| 1  | Provincial Forestry Services of Jambi | Facilitating development of MPA - Conducting fires prevention comprise of socialization, suggestion, and instalation of fires prohibition - Facilitating training of land preparation without burning (PLTB), e.g. wood vinegar for palm oil and agricultural fertilizer | Broad serving area covering entire province, while the number of personnel and budget are limited - Coordination/synergy amongst other stakeholders less optimum |
| 2  | KPH (Forest Management Unit) | Conducting accompaniment and development of MPA through socialization, training | Long-term management plan (RPHJP) has not been ratified yet - Lack of budget for fires control, including for supporting MPA’s operationalization |
| 3  | Balai KSDA Jambi | Facilitating formation of MPA, mainly in buffer village of conservation area | Limited scope and facilitation budget related to fire control |
aiming for forest protection
- Conducting education and training for MPA as Conservation Agent / Forest Ranger Partner Community
- Delivering aid in terms of community empowerment

4 Daops Manggala Agni
- Facilitating formation of MPA
- Conducting accompaniment and development of MPA through socialization, training
- Involving MPA in fire prevention or suppression patrol (routine, integrated)
- Delivering fire-equipment aid, e.g. pump, hose, clothes, banner etc.

5 Village Government
- Since MOEF Reg. P.32/2016, Village Govt. can establish MPA community
- Making policy for inserting fire control program in village development planning document
- Some of Village Govt. have assisted operational budget and logistic for MPA activities, esp. when conducting suppression fires

Lack of training on communication technique/facilitator for Manggala Agni
- Lack of budget for establishment and development of MPA periodically and sustainably
- Lack of fire-equipment aid for MPA
- No budget for fires control in some villages, esp. for supporting operational MPA
- Some of Village Govt. actually have allocated budget for fires control, unfortunately can not be executed cause by less firm regulation

Source: Primary Data (Analysed)

Provincial Forestry Service of Jambi has contributed in facilitating the establishment and development of MPA. Since it is lack of the number of personnel, budget allocation, and broad serving area covering entire province, the development and accompaniment of MPA cannot conduct comprehensively and long lasting. Provincial Forestry Service has also delivered fire-equipment aids for community, for instance pumping machine and hose. Alongside, they also facilitate community empowerment and training of land preparation without burning (PLTB) in the form of producing wood vinegar for palm oil and farming fertilizer utilizing a simply distillation machine. Actually, communities response enthusiastically with the PLTB technique and, subsequently, they ask for those machine endowment from the Government. Unfortunately, Provincial Forestry Service of Jambi cannot fulfil all of those needs yet.

In general, budget allocation from the Province (APBD) for fire control, and particularly for MPA’s development, is limited and inadequate in the case that if it is compared to the service area that must be covered. Since 2018, there is another potential source of budget for the supports of fire control specifically the Sharing Fund of Reforestation (Dana Bagi Hasil Dana Reboisasi/DBH DR). The funding has extremely supported Provincial Forestry Service in terms of conducting fire control including fire-equipment procurement.

Currently, role of KPH in accompanying and developing MPA are less significant. This condition is caused by the existence of KPH that is relatively new with limited budget and personnel (16)(17)(18). As an example, KPHP unit XXIV Tanjung Jabung Timur which was established in November 2016, but practically, the KPH started operating in 2018 with limited condition in the number of personnel, in budget allocation, in office stuffs/facilities, and the KPH still rent its office building.

Technical Unit of Conservation on Natural Resources/BKSDA Jambi has delivered significant contributions in facilitating the formation and development of MPA. Currently, most of the existing MPA are facilitated by BKSDA Jambi in their prior establishment, notably in 16 buffer villages of conservation area. At the beginning, that MPA’s formation was intended for forest protection,
including protection from fires. This is in line with the task transformation of fires control from the Directorate General of Conservation on Natural Resources and Ecosystem (Ditjen KSDAE) to Directorate General of Climate Change (Ditjen PPI) including the responsibility of DAOPS Manggala Agni development. Balai KSDA periodically conducts development of MPA though it is not specifically in the form of fire control activities, for instances are involving MPA in forest protection activities, nominating MPA personnel as a Conservation Agents / Forest Ranger Partner Community, delivering endowment in terms of community empowerment (fisheries, areca nut seed), and training & enhancing capacity development in targeted villages. One of those villages is Jangga Baru which is counted as Conservation Village model and targeted village for research.

Alongwith the task transformation for fire control to Ditjen PPI, development of DAOPS Manggala Agni becomes under Ditjen PPI. Nevertheless, there is no alteration related to task and responsibility of DAOPS MA in site level, even the scope of those mandatories become more extensive which previously only focused on conservation area; the transformation brings the task to cover the entire area including forest and land areas. DAOPS MA also facilitates the formation of MPA community, and carries out an accompaniment and development of MPA routinely through socialization of fire impacts and its prevention efforts, training of fire-equipment utilization, etc. MPA is also involved to conduct integrated prevention patrol and routine patrol, and also fire suppression(19). However, the frequency of those involvements are deficient, so it shifts the mechanism of MPA personnel becomes an alternative. MPA community have also been distributed some fire-equipment e.g. pumping machines, hose, uniforms, suggestion/warning banners, etc. In a particular condition, when necessary, MPA can borrow fire-equipments from DAOPS MA.

In general, Village Government’s supports in fire control are still quite finite, including the supports in operational budget of MPA. Those are influenced by the lack of budget allocation in fire control itself. Some Village Governments have not yet allocated specifically and explicitly on fire control program/activity on their development plan (RPJM Desa), though some have alot of budget allocation in fire control program/activity on their development plan (RPJM Desa), though some have alot of budget allocation for handling emergency disaster which fire control is part of the criteria. Actually, when there occured fires, some of Village Government have contributed on operational need/logistic for MA and MPA communities who conduct fire suppression. Ideally, Village Government can provide budget for disaster management, among others, to GDS (Manggala Agni) in village budget document (APBD Desa). Nevertheless, especially in Tanjung Jabung Timur until 2018, the allocation has never been posted so it is constrained by executing regulation (Regent Regulation), as an example is what happened in Pematang Rahim village where the remaining budget (SILPA) in the year 2019 is 60 millions. Hence, for its village budget document in the year 2019, budget for disaster management is allocated about 10 millions, it is mainly addressed for operational supports, not as honorarium of the personnel.

According to the above problem descriptions faced by stakeholders, it can be generated that the primary obstacles in development of MPA comprises:
- Lack of budget allocation for facilitating establishment and development of MPA community
- The existence of Provincial/District Government policies does not very supportive yet, especially related to the utilization of village fund for fire control
- Supporting Village Government are less optimum, both in budget allocation and also for fire-equipments/infrastructure

Those problems on MPA’s development have delivered implications and impacts to general condition of MPA, as it is described below:
- Limited fire-equipment for MPA
- No budget allocation for the operation and incentive of MPA
- Knowledge and capacity on the techniques of fire prevention and suppression are relatively weak and should be enhanced due to limited training or periodic and continuous refreshment
Sometimes its raises envies amongst personnel of MPA that in turn also causes the fire control activities (integrated and routine patrol, fire suppression); the activities can not involve all of MPA’s personnel.

The above analysis are in line with study of Marnelly (20) who conducts a research related to identification of obstacles in the implementation of MPA’s roles. The study reveals 4 (four) problems, one of which highlights the contribution of Government and Private Sector. Government delivers less optimum supports, particularly in budget allocation, which influence the implementation of their role and task in the field. Destari and Marta (21) say that community participation in fire control is less maximum that is induced by lack supports on budget and infrastructure.

5. Enhancing management of MPA through village approach

Referring to the President’s instruction to optimize efforts on fire control, it needs to determine clearly the common locus in the site level as an integrated action target. There have been determined Fire-Prone Village year 2018 in 21 Provinces based on the decision letter of the Director of Forest and Land Fire Control No. Sk.9/PKHL/PPI.4/2/2018. Especially in Jambi Province, there are 8 Districts that consist of fire-prone villages in Batanghari, Bungo, Merangin, Muaro Jambi, Sarolangun, Tanjung Jabung Barat, Tanjung Jabung Timur, and Tebo. There are 433 villages in Jambi that are categorized as a fire-prone village. Up to now, not all of the fire-prone villages have had MPA community, there are only 5 MPA amongst the 35 fire-prone villages in Batanghari and 8 MPA in 37 villages in Tanjung Jabung Timur.

The presence of MPA in fire-prone village becomes an important aspect in conducting fire control in site level. MPA community who live in a village becomes a front-line component in delivering information of fire occurrences and plays important roles on initial fire suppressions. Triggered by the potential condition, it is important to conduct integrated MPA’s development and to enhance their capacity development.

Coordination among stakeholders is important. Several experiences on MPA establishment and development in the village have resulted some deviations out of the initial philosophy. One of which is the relation between MPA and village community that becomes less harmonious. A village can accept many intervention programs or aids from various institutions, but those programs come in to the village through MPA community. This condition results an exclusivity on a certain community, and at the end, it can trigger envy among the village communities. If fire occurs, obligation of fire management is supposed to be MPA’s responsibility. That envy if not well managed will be a potential obstacles in conducting fire control. Thus, an approach that should be taken is not only focussing on the formation and development of MPA, but also constructing village as a center of action in fire control in the site level. In this case, village consists of 3 components: 1) Village Government, 2) Community, and 3) MPA.

In the concept of village approach as an action center of fire control, it is underlined by village characteristic as the lowest level of government administration and the closest area where fires occur. Regarding to that, Village Government is a symbol of the presence of State and formal institution who have an authority on bureaucracy and budget (9). All of the village’s components (Village Government, Community, and MPA) must put forward the aspects of coordination and synergy in conducting fire control both in fire prevention and suppression. Enhancing role of those components is not a short-term process and it should involve participation all of stakeholders, multi sectors and multi levels.

In this regard, it needs at least 2 (two) approaches, specifically structural and participatory approaches. The structural approach is carried out through the intervention of Village Government with their authority in coordination and budgeting policies. In this case, the intervention programs or facilities will be delivered to the village directly and synergized with the mid-term village development plan and the village budget document. The Central Government can encourage providing the implementation of the regulation clearly and budget allocation; therefore the Village Government can conduct the fire control programs in the field.
The Ministry of Home Affairs, the Ministry of Villages, the Provincial Government and the District Government can also play roles in preparing regulations and budget allocations so as the Village Government can allocate and execute budgets related to fire control accountably and effectively. Another facilitation given by other agencies such as KLHK, BRG, BNPB, Ministry of Social Affairs, etc. should be communicated and synergized spatially and temporally to prevent overlapping program in several locations / villages. This also applies to other initiatives from NGOs, private sectors and other donor agencies. For those reasons, roles of Regional Government (both Provincial and District / City) become very important in mapping “who, where, how much cost, and when” in fire control activities.

Furthermore, it is also important to arrange a grand design of forest and land fire control at the district/city levels by setting up the villages to be the main actor in fire control actions. The grand design should contain many aspects, encompassing identification of types and roles of all involved parties, coordination mechanisms and management governance including mobilization of the resources, as well as funding sources that can support fire control. In this case, supports from the government and private sectors are one of factors that influence the MPA in carrying out their duties in the field (20).

With regard to participatory approaches, it must be undertaken simultaneously and parallel.(22)states that involving community participation in fire control can be applied by accommodating community trust in the benefits of gaining and taking into account the social processes prevailing in the community. Frequent fires occur providing experiences and knowledge to the community (local knowledge) of the incidence and characteristics of fires. Elloy et al.(23)say that participation of local communities as well as their knowledge and experience on the history of fire events significantly affect the improvement of fire management policies.

To improve the participation of community and MPA in fire control activities, several points must be considered: 1) they are facilitated knowledge about the impacts and losses arising from fire incidents, fire prevention / awareness raising techniques / socialization, and prevention techniques and the use of fire fighting infrastructure facilities and to be more effective the training should be held in village; 2) the community and MPA are provided with assistance with fire control infrastructure in each village; 3) the community and MPA are given operational / logistical supports when they are carrying out fire control activities, especially in routine and continuous suppression of fire events, and 4) specifically, MPA can be maximised as agents of change for the transformation of village-based fire control.

MPA can also be functioned as public awareness agents in the context of fire prevention. MPA has advantages with the same language and culture with the village community as their neighbors. In this context, MPA has a significant value in the socialization of public awareness(2).One of the MPA’s role in raising public awareness is to advocate people not to do burning(24). The role of outreach shows a significant correlation with the level of community participation, both in technical counseling, and training aspects. The better roles of extension workers, the higher level of community participation in the prevention of land fires will occur(6).

Another alternative that can be taken in increasing community participation and MPA is the involvement of village government employees engaging heads of group community (RT/RW) as MPA members. In this case, the community leaders can use a variety of policy tools to encourage the individuals to adopt an action or change community behavior related to fires(25). At the beginning, this approach seems to be a compulsion task, but this will be able to activate the MPA organization, besides increasing coordination and synergy between the Village Government and the MPA.

6. Conclusion
The formation and development of MPA in Jambi Province, particularly in Batanghari and Tanjung Jabung Timur Districts, have been carried out by several agencies especially BKSDA, BPPIKHL Sumatera, DAOPS MA, Provincial Forestry Service, KPH and Village Government. The most common problems in the development of MPAs are the limited budget and human resources, and this
causes the general condition of the MPA that influences inadequate infrastructure, no operational budgets, and limited skills on fire prevention. Currently, the approach used by these agencies in the formation of MPAs is by forming groups directly not through village institutions. This has led deviations from the purpose of the formation of the MPA which creates a disharmonious relationship between the community and the MPA. Therefore, to strengthen better MPA management, it is better to use village approach as a center of action in fire control so the village consisting of Village Government, MPA groups and the community will be actively involved in fire control activities. This can be realized by applying a structural approach and participatory approach.

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