

# Review Form Response

## Review Form for Article

Is the title of the article usefull and appropriate? \*

- Yes, it is  
 No, it is not

Is the description of methods adequate for replication by others (if not a standard method)? \*

- Yes, it is  
 No, it is not

Are all the tables and figures self-explanatory and necessary? \*

- Yes, they are  
 No, they are not

Is the discussion adequate? \*

- Yes, it is  
 No, it is not

Are there any important publications on the topic that the authors have missed? \*

- Yes, there are  
 No, there are not

Are there any evidence errors? \*

- Yes, there are  
 No, there are not

If the article can be shortened, can you recommend which part(s) to be deleted or shortened? \*

Introduction. Giving a wider readership and Literatur context at the beginning of the introduction is very good, but please not too much. I suggest making it shorter to directly engage in the main pieces of literature and the foundation of the state of the art of this research. Do not start with empirical context, but please start with theory literature. Those paragraphs should be elaborated to answer, "Why does your article/research topic matter? (in term of literature and context)

Can you comment on the specific originality and usefulness of the article? \*

I suggest in the conclusion, rather than giving the common sense of practical recommendations, it is better to discuss its finding by reffering back to literature, what is this research contribite to the science or exixting state of the art, or the theoretical relevance of this research

Decision upon review is: \*

- Not worthy for publication in the Jurnal Manajemen Hutan Tropika  
 Worthy for publication with major revisions and I would like to get the revised version from the authors.  
 Worthy for publication with major revisions and it isnot necessary to send me the revised version (board editor may handle it)  
 Worthy for publication with minor revisions and I would like to get the revised version from the authors.  
 Worthy for publication with minor revisions and it isnot necessary to send me the revised version (board editor may handle it)  
 Worthy for publication without revision

## Additional comments for the author

The study topic is interesting. However, there are some strong concerns about publishing this manuscript as a scientific paper.

Firstly, the result is redundant and unclear. There is also a lack of specific descriptions of the figures. Therefore, it makes readers difficult to understand the key results of this paper.

Secondly, the results are not fully discussed. More than just comparing results with previous studies, it is necessary to consider why the results were obtained. Also, you should mention what are the significance and limitation of this study.

Thirdly, this paper has many grammar mistakes. Those mistakes must be corrected for publication. English proofreading is required.

For the reasons stated above, I require you to respond the following comments and resubmit the revised manuscript.

### Abstract

1. [L1-2] Critical Factors and Institutional Role in Strengthening Capacity of National Parks

- The title is vague and unclear. You should give a more specific title. For example, “Critical Factors and Institutional Role in Strengthening Capacity of National Parks: Case of Meru Betiri National Park, Indonesia” or “Critical Factors and Institutional Role in Strengthening Capacity of National Parks: Analysis of Meru Betiri National Park, Indonesia using Interpretative Structural Modeling.”

2. [L7, L9] parks

- Which do you mean park (*singular*) or parks (*plural*)?

3. [L10-12] Collecting data and information by interviews with experts, management of Meru Betiri National Parks, Jember District Government, then Focus Group Discussion with stakeholders and farmers

- Incomplete sentence (lack of *verb*)

### Introduction

4. [L24-27] The National Park preserves the unimpaired natural and cultural resources, it has a very important functions, such as a life support system to protect and maintain biodiversity, regulate water management, prevent flooding and erosion, prevent seawater intrusion, maintain soil fertility and a place for recreation as well as education for the community (Harte, 2000).

- Incomplete sentence (lack of *conjunction*)

5. [L27-28] Meru Betiri National Park is a protected forest by the government of Indonesia, the area located between Jember District and Banyuwangi district.

- Incomplete sentence (lack of *conjunction*)

6. [L31] From 1998 to now, the park **has** various security problems.
  - Check the *tense* (From 1998 to now, the park **has been having** various security problems).
  
7. [L32-36] **Based on the best practice in the management of national parks in several places in the world** showed that the conservation of a national park was well maintained by cooperation between the authorities and the local **community, the** cooperation provides social-economic benefits for the surrounding community (Sharpley and Naidoo, 2010; Snyman, 2014; Anup, 2016; Acquah et al., 2017; Perrotton et al., 2017)
  - Incomplete sentence (lack of *subject* and *conjunction*)
  
8. [L36-38] For the reason, the park took a strategic **policy, it** was making the villages around the Meru Betiri National Park to be a conservation and ecotourism village that the local communities were empowered and involved to maintain the security and rehabilitation of the area.
  - Incomplete sentence (lack of *conjunction*)
  
9. [L39-40] The policy began in **2003, the** management of Meru Betiri National Park made a regional rehabilitation partnership program.
  - Incomplete sentence (lack of *conjunction*)
  
10. [L41-42] The aim of the program to reduce the number of poor people in the area so they were not to be the trigger security disturbances in the Meru Betiri area.
  - Incomplete sentence (lack of *verb*)  
The aim of the program **was** to reduce the number of poor people in the area so they were not to be the trigger **for** security disturbances in the Meru Betiri area.
  
11. [L42-44] The villagers around the park participating in the program were empowered through the partnership **program, the** group gathered called the Center for Rural Forestry Extension (CRFE).
  - Incomplete sentence (lack of *conjunction*)
  
12. [L46-48] After community empowerment partnership program has been going on for more than twelve years, it turned **out, the** economic development of communities around the Meru Betiri National Park **has** not changed significantly.
  - Incomplete sentence  
After community empowerment partnership program has been going on for more than twelve years, it turned out **that** the economic development of communities around the Meru Betiri National Park **had** not changed significantly.
  
13. [L49-51] Meanwhile, the growth of rehabilitation plants in the deforested area which has expected to become a vegetation cover of damaged land in the Meru Betiri National Park growing slowly, however it has been planted for more than thirteen years.
  - Incomplete (lack of *verb*) and unclear sentence

## REVISION REPORTS

### Abstract

1. [L1-2] Critical factors and Institutional Role in Strengthening Capacity of National Parks.

The title is vague and unclear you should give a more specific title.

**[R1-2] We thank the reviewers for suggestion to give a more specific title and we have revised the title to “Critical factors and Institutional Role in Strengthening Capacity of National Parks: Analysis of Meru Betiri National Park, Indonesia using Interpretative Structural Modelling”**

2. [L7-9] Which do you mean park or parks?

**[R7-9] We thank the reviewer for pointing this out and we revised it to be park.**

3. [L10-12] Collecting data and information by interviews with experts, management of Meru Betiri National Parks, Jember District Government then Focus Group Discussion with stakeholders and farmers.

Incomplete sentence (lack of verb)

**[R10-12] Along with the suggestion from reviewer, we modified as follows:**

**Data and information collection was carried out through interviews with experts, management of Meru Betiri National Park, Jember Regency Government and then Focus Group Discussions with stakeholders and farmers.**

### Introduction

4. [L24-27] The National Park preserve the unimpaired natural and culture resources, it has a very important functions, such as a life support system, to protect and maintain biodiversity, regulate water management, prevent flooding and erosion, prevent sea water intrusion, maintain soil fertility, and a place for recreation as well as education for the community (Harte, 2000).

Incomplete sentence (lack of conjunction)

**[R24-27] Along with the suggestion from reviewer, we modified as follows:**

**The National Park preserves the unimpaired natural and cultural resources, it has a very important function, such as the life support system, protect and maintain biodiversity, regulate water management, prevent flooding and erosion, prevent seawater intrusion, maintain soil fertility, and a place for recreation as well as education for the community (Harte, 2000).**

5. [L27-28] Meru Betiri National Park is protected forest by the government of Indonesia, the area located between Jember district and Banyuwangi district.

Incomplete sentence (lack of conjunction)

**[R27-28] As suggested by reviewers, we complete the conjugation.**

# Critical factors and Institutional Role in Strengthening Capacity of National Parks: Analysis of Meru Betiri National Park, Indonesia using Interpretative Structural Modeling

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## Abstract

There are several factors suspected of ineffective rehabilitation and conservation of the Meru Betiri National Park. These important factors need to be identified to improve the management of the park. The purpose of this study was to identify and examine the relationship between the factors that influence the achievement of rehabilitation and conservation of the park. The method of this research used a systematic approach to be identified, analyzed, and explained the influential critical factors. *Data and information collection was carried out through interviews with experts, management of Meru Betiri National Park, Jember Regency Government and then Focus Group Discussions with stakeholders and farmers.* The information and data obtained were analyzed using Interpretative Structural Modeling (ISM). The results showed the three critical factors in achieving the purpose of the programs, such as the synergy between the management of the park and Jember district government; availability of appropriate technology; and the development of institutional capacity for local communities, then the three critical factors of institutional role are Meru Betiri National Park; Jember Regency Planning and Development Agency; and Higher Education. The implication of this study is a policy intervention is needed to improve the management of Meru Betiri National Park in the future.

*Keywords Meru Betiri, Amplification, Rehabilitation, Conservation*

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## Introduction

The National Park preserves the unimpaired natural and cultural resources, it has a very important function, such as the life support system, protect and maintain biodiversity, regulate water management, prevent flooding and erosion, prevent seawater intrusion, maintain soil fertility, and a place for recreation as well as education for the community (Harte, 2000). Meru Betiri National Park is a forest protected by Indonesian government, this area is located between Jember Regency and Banyuwangi Regency. Through these very important functions, the government and the local community surround the park are required to maintain the preservation of Meru Betiri National Park.

From 1998 to now has been having various security problems. In 1998, there was illegal logging in the area (Darmadja et al., 2012). Based on best practices in managing national parks in several places in the world shows that preserve of national parks is carried out with good coordination between the authorities and the local community to provide socio-economic benefits for the surrounding community (Sharpley and Naido, 2010; Snyman, 2014; Anup, 2016; Acquah et al., 2017; Perroton et al., 2017). Therefore, the park adopted a strategic policy by making the villages around Meru Betiri National Park a conservation and ecotourism village by involving local communities to maintain security and rehabilitate the area.

## [jmht] Editor Decision: Review

Inbox

E

**Efi Yuliati Yovi** <jurnal@apps.ipb.ac.id>

Fri, Feb 7,  
2020,  
11:13 AM

to me

Dear Merry Muspita Dyah Utami, Merry Muspita Dyah Utami,

We have reached a decision regarding your submission to Jurnal Manajemen Hutan Tropika, "Critical Factors and Institutional Role in Strengthening Capacity of National Parks".

Our decision is to: Review

Please do revision properly based on the mentioned items and send back to us within 10 days. Send the revision file into <http://journal.ipb.ac.id/index.php/jmht/>

Kind regards,

Efi Yuliati Yovi  
(SCOPUS ID: 56021619600), Department of Forest Management, Faculty of Forestry, Bogor Agricultural University  
Phone +622518621244  
[eyyovi@ipb.ac.id](mailto:eyyovi@ipb.ac.id)

# [jmht] New notification from Jurnal Manajemen Hutan Tropika

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**Efi Yuliati Yovi** <jurnal@apps.ipb.ac.id>

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You have a new notification from Jurnal Manajemen Hutan Tropika:

You have been added to a discussion titled "Request for MS word maintext" regarding the submission "Critical Factors and Institutional Role in Strengthening Capacity of National Parks".

Link: <http://journal.ipb.ac.id/index.php/jmht/authorDashboard/submission/28180>

Dr. Efi Yuliati Yovi

<http://journal.ipb.ac.id/index.php/jmht/>

# MS WORDS FILE REQUEST

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**JMHT [IPB]** <jmht@apps.ipb.ac.id>

Thu, Feb  
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to me

Dear Dr. Merry

I am Editor in Chief of JMHT, and a manuscript you submitted to us has been achieving the final decision stage. However, we could not proceed to further stage because you use a PDF file version instead of MS WORD.

I already send you several emails regarding to this matter, and still no reply or confirmation from you.

Please send the MS WORD version soon, so we can proceed to the next necessary stage.

Thank you for our cooperation.

Dr. Efi Yulianti Yovi

Editor in Chief



51 **In 2003, the management policy of the Meru Betiri National Park was started as a regional**  
52 **rehabilitation partnership program.** In the initial stage, the program involved and empowered 5500 people  
53 living around the park to rehabilitate the area. **The aim of the program is to reduce the number of poor**  
54 **people in the area so that they do not to become a trigger for security disturbances in the Meru Betiri**  
55 **area. The villagers around the park who participated in this program were empowered through a**  
56 **partnership program called the Center for Rural Forestry Expansion (CRFE).** The CRFE generated the  
57 villagers by capital assistance, training, and other production facilities which funding by the management of  
58 Meru Betiri National Park.

59 **The community empowerment program has been running for more than twelve years, but the**  
60 **economic development of the communities around Meru Betiri National Park has not changed**  
61 **significantly.** The frequency of disruption to Meru Betiri forests in the form of illegal logging has the same  
62 from year to year (Rujito, 2016). **Meanwhile, the growth of rehabilitation plants in Meru Betiri National**  
63 **Park growing slowly, even though it had been planted for more than thirteen years.** These indicate that  
64 community empowerment and the effectiveness of the rehabilitation program were not in line with the  
65 targets. For this reason, the program needs to be improved through increasing the effectiveness of the  
66 collaboration which will have a positive impact on the security and conservation of natural resources and  
67 increasing the capacity of local communities in the area.

68 Several models of national park management in several places in the world can be used as a comparative  
69 study to improve national park management (Braasch et al., 2018). Based on some experiences in managing  
70 national parks, involving local communities to preserve national parks can be done through several  
71 alternative approaches, including adaptive management (Birgé et al., 2016), collaborative management  
72 (Ansell & Gash, 2008), and adaptive co-management (Fabricius & Currie, 2015).

73 **General concepts management of national parks are based on ecological and social systems in the**  
74 **region (McGinnis and Ostrom, 2014; Mathevet et al., 2016) although ecological dynamics and social**  
75 **dynamics are difficult to predict (Dewulf et al., 2005; Brugnach et al., 2008; Allen and Gunderson,**  
76 **2011).**

77 There are several causes of the conflict of interest between the communities surrounding the national park  
78 and the national park management. For solving the problem, there are several models of collaboration  
79 between the stakeholders related to the national park (Braasch et al., 2018). **Many problems in the program**  
80 **so that the program is ineffective based on research and preliminary observations by (Hall, 1999;**  
81 **Stringer et al., 2006; Idrissou et al., 2013).**

82 **One of the problems is the lack of strengthening the institutional capacity of the local communities**  
83 **in the villages due to the low awareness of the community to participate in empowerment programs.**  
84 **The community is not allowed to design an empowerment program, so that it happens a lack of**  
85 **initiative and participation of citizens in the program.** Institutional aspect is one of the most important  
86 aspects of community empowerment. Others issues in the institutional aspects of local communities were  
87 lack of role and synergy among stakeholders (Rydin and Holman, 2004), lack of synergy between sectors,  
88 lack of synergy with government, lack of public access to capital (financial and production input), lack of  
89 marketing knowledge (Rydin and Pennington, 2000), lack of science and technology, the policymaking  
90 process, and lack of social capital (trust, togetherness, and networking) by (Nath, Inoue and Pretty, 2011).

91           **Meanwhile, the network among small business in villages of the Meru Betiri National Park area is**  
92 **not going well. In rural areas, the important role of small businesses is providing additional income.**  
93 **The low networking inhibits the achievement of community empowerment so that so that business**  
94 **opportunities cannot be utilized optimally. As a result, the utilization of business opportunities is**  
95 **not optimal, declining value-added and low sales of production.** This condition hinders the  
96 achievement of community empowerment. The purpose of this research was to evaluate the relationship of  
97 critical factors for the effectiveness of rehabilitation and securing conservation areas by the strengthening of  
98 local communities. The result of this research can be used as a basis for formulating policies for management  
99 to improve the management of Meru Betiri National Park.

## 101 **Methods**

102           The research method used a systematic approach to identify the key factors based on Interpretative  
103 Structural Modeling (ISM). This method is excellent for identifying relationships between specific element  
104 factors that cause problems in a system. This model is widely used by researchers to study the relationship  
105 between various kinds of elements causing problems in a system (Dev & Sharma, 2013). Lim et al. (2017)  
106 reported the ISM method involves qualitative and interpretative data to solve complex problems based on the  
107 mapping of the structure of relationships between attributes (elements or factors) followed by transformation  
108 into a multi-level structure model.

109           The basic idea to identify the elements factors of the system is based on the practical experience of  
110 competent practitioners and experts who know how to spell out a complex system into several elements and  
111 to build sub-elements on which a multi-level structure model (Mathiyazhagan et al., 2013). The ISM method  
112 identifies the elements and explains the direction of the relationship between the sub-elements of a system by  
113 describing the relationship between the specific elements of the system and the hierarchical sequence that  
114 cause the problems of the system through dependencies and the driving power in other elements (Mangla,  
115 2014).

116           Participants in this study were stakeholders related to the Meru Betiri National Park area, including the  
117 management of Meru Betiri National Park, the District Development Planning Agency of Jember regency,  
118 the heads of local community groups, **the heads of the villages in the Meru Betiri area**, Department of  
119 Food Security and Animal Husbandry of Jember regency, the Forestry and Plantation Service of Jember  
120 regency, tourism agency and several regional university experts.

121           Each stakeholder group is assigned as the representative expert to represent the group by interviews,  
122 focus group discussions and filling out **the questionnaires which are relevant to the problems or issues**  
123 **and continue with the group's problem solving** (Attri et al., 2013).

124           There are several steps to implementing the ISM method, such as: identifying the elements in the system  
125 that are relevant to the problem, developing contextual relationships between elements for modeling  
126 purposes, and preparing a single Structural Self-Interaction Matrix (SSIM) which is intended to represent the  
127 perception of respondent perceptions for the relationship between elements. The relationship can be  
128 explained by the symbol- symbol as follows: V: if factor I will help to achieve factor J or to influence factor  
129 J, A: if factor J will help to achieve factor I or to influence factor I, X: if factors J help to achieve or to  
130 influence each other, and O: if factors I and J do not correlate or do not affect each other.

131 Reachability Matrix (Reachability Matrix-RM) is by converting the SSIM matrix symbols into the binary  
132 matrix. Convert SSIM matrix into the RM matrix using the following rules:

- 133 a. If in SSIM the relationship of element  $E_i$  to element  $E_j = V$ , then  $E_i = 1$ , and  $E_j = 0$
- 134 b. If in SSIM the relationship of element  $E_i$  to element  $E_j = A$ , then  $E_i = 0$ , and  $E_j = 1$
- 135 c. If in SSIM the relationship of the element  $E_i$  to the element  $E_j = X$ , then  $E_{ij} = 1$ , and  $E_{ji} = 1$
- 136 d. If in SSIM the relationship of the element  $E_i$  to the element  $E_j = O$ , then  $E_{ij} = 0$ , and  $E_{ji} = 0$

137 The next step is to classify system elements into a mapping consists of four levels, namely: autonomous,  
138 dependent, linkage and independent. The classification of the elements in the ISM structure is distinguished  
139 based on the level of partitions. At this step, the two devices are associated with the  $E_i$  elements of the  
140 system. A set of reachability ( $R_i$ ) is a set of all elements obtained from the elements  $E_i$ , and the other  
141 obtained from the elements of  $A_i$ . Canonical matrices have done by grouping elements into the same level in  
142 a matrix development for preparing of diagrams. The chart illustrates the relationship between the elements  
143 directly and the level of the hierarchy. The preparation stage for policy strategies based on interpretive  
144 structural models (Lamatinulu & Dahlan, 2017), in the context of this research, is the management of Meru  
145 Betiri National Park.

146

## 147 **Results and Discussion**

148 **Based on the results of in-depth interviews and discussions and FGDs with Meru Betiri National**  
149 **Park experts and managers as well as FGDs from stakeholders (farmers, facilitators, village heads,**  
150 **community leaders), there are the two main factors (critical factors) are (a) Elements of the Purpose**  
151 **System; (b) Elements of the Institutional Role in the System.**

152 **Furthermore, contextual relationship assessment is performed on each sub element in each of the**  
153 **critical factors. The results of the study are in the form of structural information from the system**  
154 **(which includes rehabilitation, conservation and strengthening of local communities in the region) with**  
155 **an explanation of the hierarchical relationship between one sub element and other sub elements**  
156 **accompanied by the classification of sub elements based on the characteristics expressed in the level of**  
157 **driving power and the level of dependence on other sub elements.**

### 158 **Structural Model of Sub Elements in Critical Factors of "Purpose" Systems.**

159 **The results of identifying the types and several sub-elements as follows:**  $T_1$  = The development of  
160 ecotourism in the Meru Betiri National Park area,  $T_2$  = Development of Potential Regional Resources for  
161 Ecotourism and Economy of Local Communities,  $T_3$  = Conservation preserved of natural resources and the  
162 environment of Meru Betiri National Park,  $T_4$  = Meru Betiri National Park Rehabilitation Targets Achieved,  
163  $T_5$  = Provision of Job Opportunities for Local Communities,  $T_6$  = Increased Local Community Income,  $T_7$  =  
164 The security of the Meru Betiri National Park area is well maintained,  $T_8$  = Synergy between Meru Betiri  
165 National Park with District Development Planning Agency and Higher Education,  $T_9$  = Strengthening the  
166 Institutional Capacity of the Meru Betiri National Park local community,  $T_{10}$  = Availability of Supporting  
167 Technology for potential regional development,  $T_{11}$  = Development of Local Community Empowerment in  
168 the Meru Betiri National Park area,  $T_{12}$  = High productivity of Crop Farming, Horticulture and Livestock  
169 Farming. then analyzed the level of interaction with ISM.

170 The first step is to study the contextual relationship in the form of a SSIM-VAXO matrix (figure 1).  
171 The second phase carried out the transformation of the SSIM-VAXO into the reachability matrix  
172 (RM) of binary numbers (figure 2). Further identification of 12 sub-elements that can be grouped  
173 based on the level of driver power and the level of dependency using the ISM method to determine the  
174 hierarchical structure model (figure 3).

175 The sub-elements are classified into four sectors. The sector one is weak driver-weak dependent  
176 variables (autonomous), the relationship between these sectors is relatively small or not related. The  
177 sector two (weak driver- strongly dependent variables), the variable in this sector is very dependent on  
178 the input and actions of the system, especially on the linkage variables. The sector three is strong  
179 driver- strongly dependent variables (linkage), the relationship between variables in this sector is not  
180 stable and every action on the variable will affect the other variables. Sector Four is a powerful driver  
181 with dependent variables, the variables in this sector are called free variables whose sub elements are  
182 considered as key factors of the system.

183 The figure 3 showed that there are three key sub-elements of success in achieving rehabilitation and  
184 conservation goals, namely T8 (Synergy between Meru Betiri National Park with Development Planning  
185 Agency of Jember District and Higher Education); T9 (Strengthening the institutional capacity of the Meru  
186 Betiri National Park local community); T10 (Availability of Supporting Technology for Regional Potential  
187 Development). The sub-elements T8, T9, and T10 which have the highest driving force and the lowest  
188 dependency value. The importance of synergy between institutions (T8) as a key sub-element of success in  
189 achieving rehabilitation and conservation goals is consistent with the results of the research of Santoso et al.  
190 (2015) about the importance of synergy in handling national parks. **Synergy will improve coordination,**  
191 **common perception, complementarity (there is no overlapping of activities), so that the efficiency and**  
192 **effectiveness of activities that focus on goals can be realized.**

193 The key sub-element to success in achieving the system goals requires the existence of T9 (Strengthening  
194 the institutional capacity of local communities). This is due to the interaction between the community and the  
195 forest area that cannot be separated because the existence of the community around the forest is part of the  
196 forest itself. In order for local communities to contribute positively, a strong institutional capacity is needed  
197 (Moswete and Thapa, 2018). The reality on the ground now shows that in general, the institutional capacity  
198 of local communities in Meru Betiri National Park is still lacking.

199 The third key sub-element in the critical purpose factor is T10 (ie the availability of Supporting  
200 Technology for the Development of Potential Areas). Based on the FGD conducted by the local community  
201 in the area, guided by a facilitator from the Meru Betiri National Park Center, the information technology  
202 needed by the community in the area are technology for processing agricultural products to increase the  
203 added value **of products, and** technology to improve access to information and communication in the area's  
204 community which has been rather isolated due to its remote location. Further identification of the need for  
205 technology for processing agricultural products in the Meru Betiri National Park area by experienced field  
206 practitioners and also by the heads of partner farmer groups shows that it needs tools and machines for  
207 processing fruit such as jackfruit, bananas, soursop, wood mushrooms, and medicinal plants. Other  
208 technological needs are information technology for developing smart village model areas to open villagers'

209 access to capital (financial, land, production facilities), markets, science and technology, and to assist in the  
210 process of policymaking for local communities

211 **Based on an analysis of the level of driver power and the level of dependency (figure 3) showed that**  
212 **there is the lack of attention to the sub-elements will affect to conservation goal. Sub-elements T3**  
213 **(conservation of Meru Betiri National Park conservation area), T1 (the development of ecotourism in**  
214 **the Meru Betiri National Park area) and T4 (the achievement of the Meru Betiri National Park**  
215 **Rehabilitation Targets) are in sector two. The variable in this sector is very dependent on the input**  
216 **and actions of the system.**

217 **In the final stage is to arrange a hierarchy of sub-elements based on the value of drive power and**  
218 **dependence on the purpose system (figure 4).** Nowadays coordination and perceptual similarities between  
219 institutions such as the Meru Betiri National Park and the offices in Jember district have not been as  
220 expected. Roles and synergy among stakeholders are felt to be still lacking, as well as synergy between  
221 sectors and between levels of government. This is because the related agencies are still under the control of  
222 the Jember and Banyuwangi district governments, while the Meru Betiri National Park is under the control of  
223 the central government.

224

#### 225 **Structural Model of Sub Elements in the Critical Factor of Institutional Role**

226 The results of the identification of the second critical factor (Institutional Role elements in the system)  
227 obtained sub-elements as follows: L1 = Meru Betiri National Park, L2 = Regional Offices of Plant and  
228 Forestry, L3 = Regional Offices of Food Security and Animal Husbandry, L4 = Regional Offices of Industry  
229 and Trade, L5 = Regional Offices of Tourism, L6 = Development Planning Agency of Jember District, L7 =  
230 Regional Offices of Agriculture, L8 = Regional Offices of Community and Village Empowerment, L9 =  
231 Non-governmental organization, L10 = Local Community Institutions Rural Forestry Counseling Center, L11  
232 = Higher Education, L12 = Independent Rehabilitation Partner Farmers Group.

233 **Based on the results of the contextual relationship in the form of a SSIM-VAXO matrix (figure 5),**  
234 **the reachability matrix (RM) of binary numbers (figure 6) and the level of driver power and the level**  
235 **of dependency using the ISM method (figure 7) to determine the hierarchical structure model (figure**  
236 **8). Based on Figure 5 and Figure 6 that in order to create an independent and empowered farmer**  
237 **group, there must be an institutional local community with a large or strong capacity (figure 7). There**  
238 **are three institutions that are the key sub-elements that act as a motivator for other institutions to**  
239 **participate in the rehabilitation and strengthening of local communities and Meru Betiri National Park**  
240 **conservation, namely L1 (Meru Betiri National Park Office); L6 (Jember Regency Planning and**  
241 **Development Agency); L11 (Higher Education). These three institutions have the same relative driving**  
242 **force so they need to coordinate and cooperate with each other in order to be able to further encourage**  
243 **the participation of related agencies in order to participate in developing Meru Betiri National Park.**  
244 **The ultimate goal of this structural model is the realization of independence or empowerment of**  
245 **rehabilitation partner farmer groups. The hierarchy of sub-elements based on the value of drive power**  
246 **and dependence on the institutional role shown in figure 8).**

247 The results of this study state that the institutional strength of local communities is important to build  
248 social capital and learning for local communities in the region to become independent and contribute

249 positively to the conservation of national parks. The results of this study are in accordance with the  
250 results of research conducted in several places in the world such as Zimbabwe (Ntuli &  
251 Muchapondwa, 2018) which states that the role of institutional and collaboration have a strong effect  
252 on the success of biodiversity on the conservation of national parks and in accordance with the results  
253 of a review of national park forest management for 40 years in several countries in the world all of  
254 which concluded that strong institutional capacity of local communities is needed to form social capital  
255 and also for learning for local communities so that they can become independent (Gilmour, 2016).

256 Therefore, a strong community institution can be concluded as having an important role in helping to  
257 conserve national parks. In the structural model of the sub-elements - the critical factor in the institutional  
258 role related to technical aspects (there are 7 services) is in level 3, which means these services have quite a  
259 strong impetus but also have a large enough dependency. For the good of the future, these agencies should  
260 coordinate with each other and work together to form a synergy with the coordination of Development  
261 Planning Agency of Jember District.

262

### 263 **Conclusion**

264 There are two important factors that affect the rehabilitation, conservation and strengthening of  
265 the institutional capacity of local communities in the Meru Betiri National Park are the purpose of the  
266 system and the role of institutions in the system. The key sub-elements on the purpose of the system  
267 such as synergy between related institutions, strong institutional capacity of local communities, and  
268 availability of technology for development area. The achieving the purpose of rehabilitation and  
269 conservation is largely determined by the development of local institutional capacity and the three  
270 main institutions that have an important role are Meru Betiri National Park, Development Planning  
271 Agency of Jember District, and Higher Education.

272

### 273 **Policy Recommendation**

274 Based on a review of the academic literature and information from the conclusions of this study,  
275 the following are recommended: (1) Strengthening the synergy and coordination between Meru Betiri  
276 National Park, the Jember Regency Development Planning Agency and higher education, (2)  
277 Provision of facilities and intensive assistance to increase the institutional capacity of local  
278 communities, and (3) Appropriate technology to increase the added value of agricultural products that  
279 are abundant in the region but are easily damaged. Also, access to capital in the form of financial  
280 loans, production facilities, market provision, business networks and information technology is  
281 provided for residents in the Meru Betiri National Park area.

282

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285 Research and Higher Education 2019

286

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No.	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
T1	A	X	X	A	A	A	A	A	A	A	A
T2		V	V	V	V	V	A	A	A	V	V
T3			A	A	A	A	A	A	A	A	A
T4				A	A	A	A	A	A	A	A
T5					X	V	A	A	A	X	X
T6						V	A	A	A	X	V
T7							A	A	A	A	A
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T10										V	V
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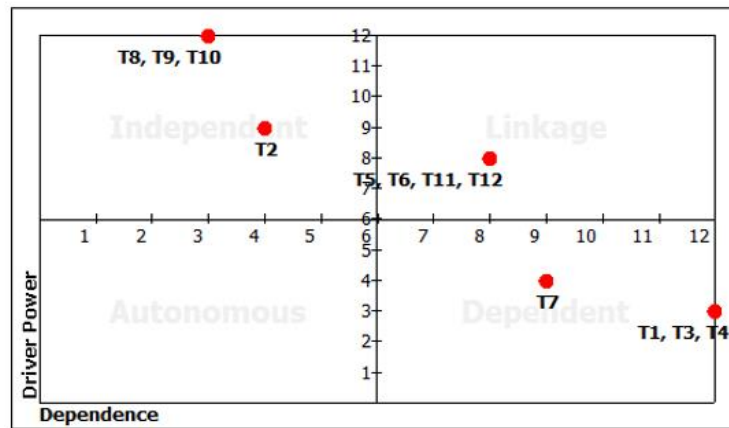
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Figure 1 Structural Self Interaction Matrix (SSIM) of Purpose System

No.	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	Drv
T1	0	1	1	0	0	0	0	0	0	0	0	3
T2	1	1	1	1	1	1	0	0	0	1	1	9
T3	0	1	1	0	0	0	0	0	0	0	0	3
T4	0	1	1	0	0	0	0	0	0	0	0	3
T5	0	1	1	1	1	1	0	0	0	1	1	8
T6	0	1	1	1	1	1	0	0	0	1	1	8
T7	0	1	1	0	0	1	0	0	0	0	0	4
T8	1	1	1	1	1	1	1	1	1	1	1	12
T9	1	1	1	1	1	1	1	1	1	1	1	12
T10	1	1	1	1	1	1	1	1	1	1	1	12
T11	0	1	1	1	1	1	0	0	0	1	1	8
T12	0	1	1	1	1	1	0	0	0	1	1	8
Dep	4	12	12	8	8	9	3	3	3	8	8	

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Figure 2 Reachability Matrix Elements of Purpose System



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Figure 3 Strategic Grouping of Purpose System

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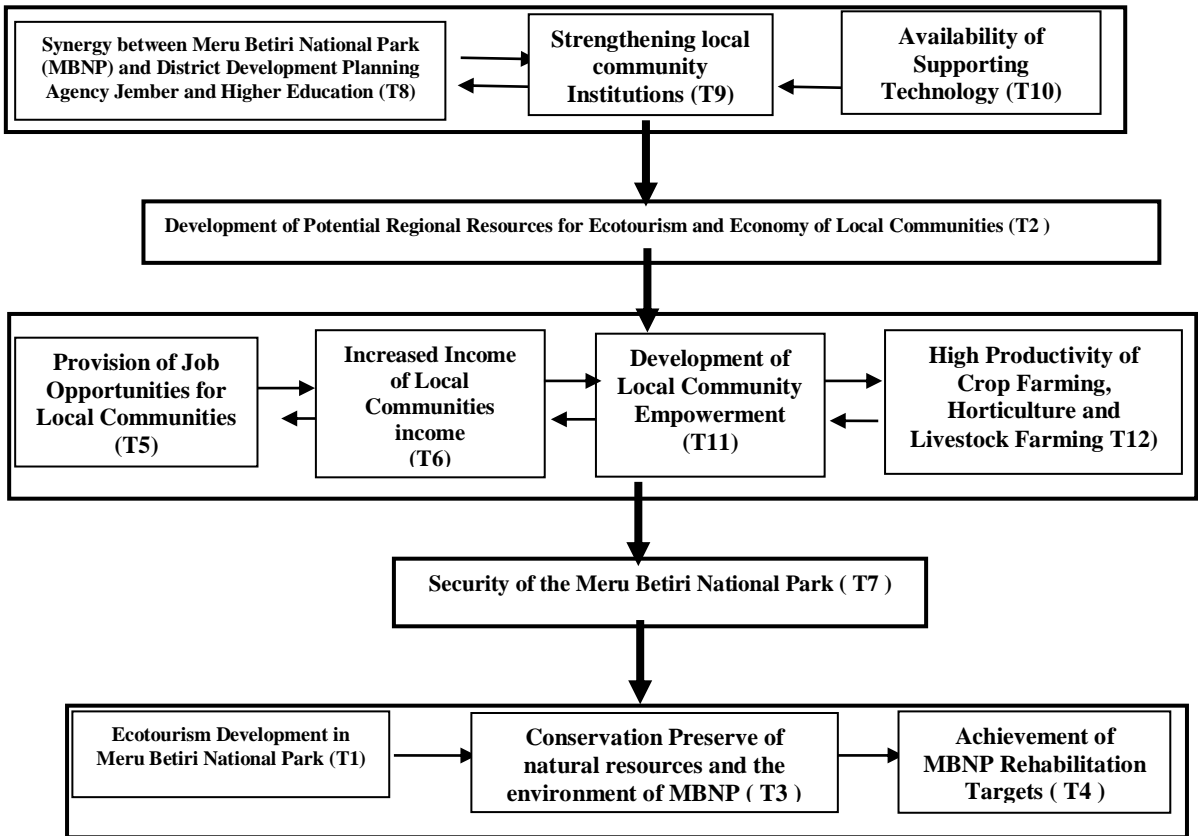


Figure 4 Hierarchical Structural of Sub-Elements Critical Factors of Purpose System

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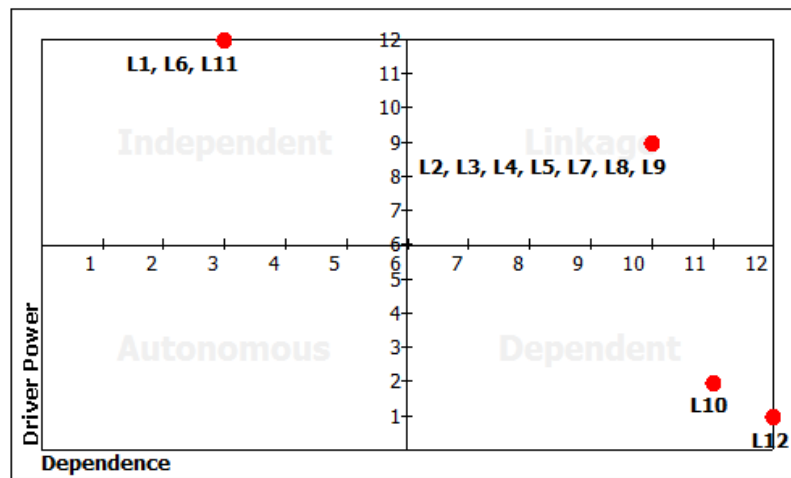
No.	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12
L1	V	V	V	V	X	V	V	V	V	X	V
L2		X	X	X	A	X	A	A	V	O	V
L3			X	X	A	X	A	A	V	A	V
L4				X	A	X	X	O	V	A	V
L5					A	X	A	X	V	A	V
L6						V	V	V	V	X	V
L7							A	V	V	A	V
L8								A	V	A	V
L9									V	A	V
L10										A	V
L11											V
L12											

Figure 5. Structural Self Interaction Matrix (SSIM) of Institutional Role

No.	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	Drv
L1	1	1	1	1	1	1	1	1	1	1	1	12
L2	1	1	1	1	0	1	1	1	1	0	1	9
L3	1	1	1	1	0	1	1	1	1	0	1	9
L4	1	1	1	1	0	1	1	1	1	0	1	9
L5	1	1	1	1	0	1	1	1	1	0	1	9
L6	1	1	1	1	1	1	1	1	1	1	1	12
L7	1	1	1	1	0	1	1	1	1	0	1	9
L8	1	1	1	1	0	1	1	1	1	0	1	9
L9	1	1	1	1	0	1	1	1	1	0	1	9
L10	0	0	0	0	0	0	0	0	1	0	1	2
L11	1	1	1	1	1	1	1	1	1	1	1	12
L12	0	0	0	0	0	0	0	0	0	0	1	1
Dep	10	10	10	10	3	10	10	10	11	3	12	

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Figure 6. Reachability Matrix Elements of of Institutional Role



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Figure 7. Strategic Grouping of Institutional Role

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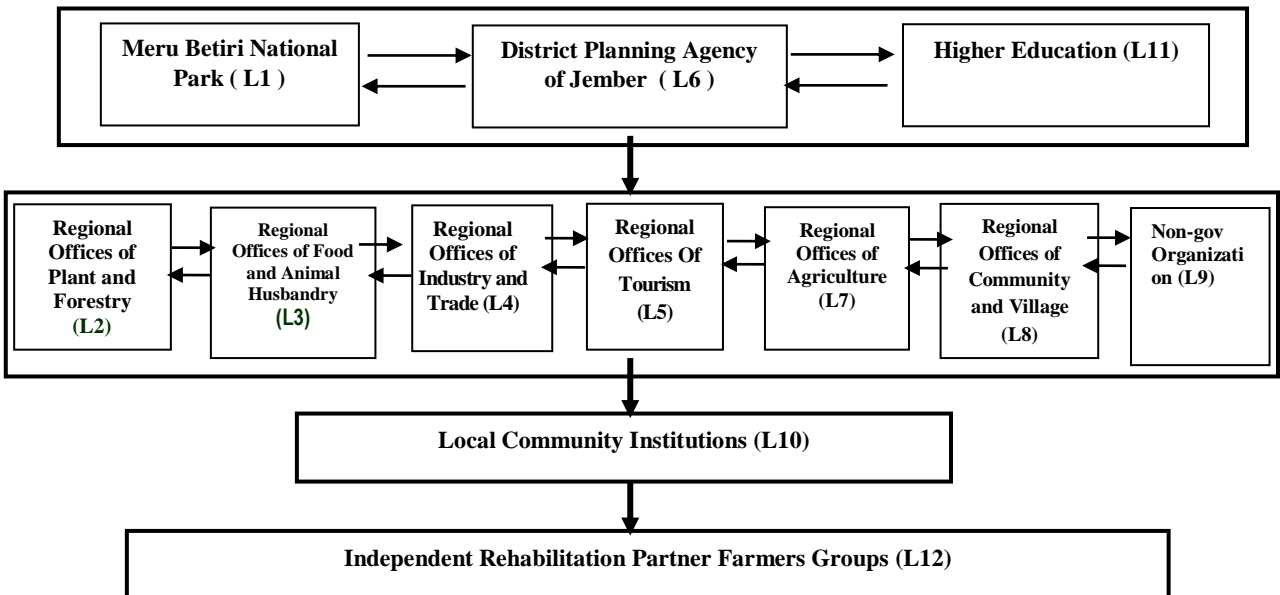


Figure 8 Hierarchical Structural of Sub-Elements Critical Factors of Institutional Role

**Meru Betiri National Park is a forest protected by the Indonesian government, this area is located between Jember Regency and Banyuwangi Regency.**

6. [L31] From 1998 to now, the park has various security problems. Check the tense (from 1998 to now has been having various security problems).

**[R31] As suggested by reviewers, we modified it.  
From 1998 to now has been having various security problems.**

7. [L32-36] Based on the best practice in the management of national parks in several places in the world showed that the conservation of a national park was well maintained by corporation between the authorities in the local community, the cooperation provides social economic benefits for the surrounding community (Sharpley and Naido, 2010; Snyman, 2014; Anup, 2016; Acquah et al., 2017; Perroton et al., 2017).

Incomplete sentence (lack of subject and conjunction)

**[R32-36] We thank the reviewer for pointing this out and we modified it.  
Based on best practices in managing national parks in several places in the world shows that preserve of national parks is carried out with good coordination between the authorities and the local community to provide socio-economic benefits for the surrounding community (Sharpley and Naido, 2010; Snyman, 2014; Anup, 2016; Acquah et al., 2017; Perroton et al., 2017).**

8. [L36-38] For the reason, the park took a strategic policy, it was making the village around the Meru Betiri National Park to be a conservation and ecotourism village that the local communities were empowered and involved to maintain the security and the rehabilitation of the area.

Incomplete sentence (lack of conjunction)

**[R36-38] We thank the reviewer for pointing this out and we modified it.  
Therefore, the park adopted a strategic policy by making the villages around Meru Betiri National Park a conservation and ecotourism village by involving local communities to maintain security and rehabilitate the area.**

9. [L39-40] The policy began in 2003, the management of Meru Betiri National Park made regional rehabilitation partnership program.

Incomplete sentence (lack of conjunction)

**[R39-40] As suggested by reviewers, we completed the conjugation of the sentence  
The aim of the program is to reduce the number of poor people in the area so that they do not to become a trigger for security disturbances in the Meru Betiri area.**

10. [L41-42] The aim of the program to reduce the number of poor people in the area so they were not to be a trigger security disturbances in the Meru Betiri area.

Incomplete sentence (lack of verb)

**[R41-42] As suggested by reviewers, we completed the verb of the sentence.**

**The aim of the program is to reduce the number of poor people in the area so that they do not become a trigger for security disturbances in the Meru Betiri area.**

11. [L42-44] The villagers around the park participating in the program were empowered through the partnership program, the group gathered called the Center for Rural Forestry Extension (CRFE).  
Incomplete sentence (lack of conjunction)

**[R42-44] As suggested by reviewers, we completed the conjugation of the sentence**

**The villagers around the park who participated in this program were empowered through a partnership program called the Center for Rural Forestry Expansion (CRFE).**

12. [L46-48]

After community empowerment partnership program has been going on for more than twelve years, it turned out the economic development of communities around the Meru Betiri National Park has not changed significantly.

Incomplete sentence

**[R46-48] As suggested by reviewers, we completed the sentence.**

**The community empowerment program has been running for more than twelve years, but the economic development of the communities around Meru Betiri National Park has not changed significantly.**

13. [L49-51]

Meanwhile, the growth of rehabilitation plants in the deforested area which has expected to become a vegetation cover of damage land in the Meru Betiri National Park growing slowly, however it has been planted for more than thirteen years.

Incomplete sentence (lack of verb and unclear sentence)

**[R49-51] As suggested by reviewers, we completed the verb and made the sentence clear.**

**Meanwhile, the growth of rehabilitation plants in Meru Betiri National Park growing slowly, even though it had been planted for more than thirteen years.**

14. [L61-62] The general concept in the management of national parks based on the framework of ecological and social systems in the region (McGinnis and Ostrom, 2014).  
Incomplete sentence (lack of verb)

**[R61-62] As suggested by reviewers, we completed the verb of the sentence**

**General concepts management of national parks are based on ecological and social systems in the region (McGinnis and Ostrom, 2014; Mathevet et al., 2016).**

15. [L61-66] The general concept in the management of national parks based on the framework of ecological and social systems in the region (McGinnis and Ostrom, 2014). The park managers must considered not only ecology and social dynamics in the national park area (Mathevet et al., 2016) but

also adopt and an interdisciplinary approach. Nonetheless, the park managers acknowledge inherent uncertainties and difficulties in predicting ecological and social dynamics (Dewulf et al., 2005; Brugnach et al., 2008; Allen and Gunderson, 2011).

The connection between this paragraph [L61-66] and the previous [L56-60] and following [L67-70] paragraph is unclear. You should make a logic (i.e., relationships between paragraphs more clearly)

**[R61-66] We thank the reviewer for pointing this out and we modified it.**

**General concepts management of national parks are based on ecological and social systems in the region (McGinnis and Ostrom, 2014; Mathevet et al., 2016) although ecological dynamics and social dynamics are difficult to predict (Dewulf et al., 2005; Brugnach et al., 2008; Allen and Gunderson, 2011).**

16. [L69-70] Based on research and preliminary observations  
Whose research and observations? You should make the sentence clearly

**[R69-70] We thank the reviewer for pointing this out and we modified it.**

**Many problems in the program so that the program is ineffective based on research and preliminary observations by (Hall, 1999; Stringer et al., 2006; Idrissou et al., 2013).**

17. [L72] ... caused by a lack of initiative and participation of citizens in the program.  
Please mention the reason why a lack of initiative and participation of citizens in the program caused the problems of lack of threatening the institutional capacity in the local communities.

**[R72] See revise below**

18. [L71-77] One of the problems is the lack of threatening the institutional capacity of the local communities in the village caused by a lack initiative and participation of citizens of the program. Institutional aspect is the one of the most important aspects of community empowerment. Others issues in the institutional aspect of local communities were lack of role and synergy among stakeholders, lack synergy between sectors, lack of synergy between government, lack of public access to capital (financial and production input), lack of marketing knowledge, lack of science and technology, the policy making process, and the lack of social capital (trust togetherness and networking)  
Cited references must be specific.

**[R72] [R71-77] We respect the reviewer opinion and we modified it**

**One of the problems is the lack of strengthening the institutional capacity of the local communities in the villages due to the low awareness of the community to participate in empowerment programs. The community is not allowed to design an empowerment program, so that it happens a lack of initiative and participation of citizens in the program. Institutional aspect is one of the most important aspects of community empowerment. Others issues in the institutional aspects of local communities were lack of role and synergy among stakeholders (Rydin & Holman, 2004), lack of synergy between sectors, lack of synergy with government, lack of public access to capital (financial and production input), lack of marketing knowledge (Rydin**

**& Pennington, 2000), lack of science and technology, the policymaking process, and lack of social capital (trust, togetherness, and networking) by (Nath & Pretty, 2011)**

19. [L78] Microbusiness operators.  
What are the microbusiness operators? Please describe specifically.

**[R78] We explained the sentence clearly.**

**Meanwhile, the network among small business in villages of the Meru Betiri National Park area is not going well. In rural areas, the important role of small businesses is providing additional income.**

20. [L80-82] The implication of it, the utilization of business opportunities do not optimal, added value become difficult and low of the selling process of production.  
Incomplete sentence (lack of verb)
- Lack of conjunction
  - Optimal is adjective not verb

**[R80-82] We thank the reviewer for pointing this out and we completed the conjugation and the verb in the sentence.**

**As a result, the utilization of business opportunities is not optimal, declining value-added and low sales of production.**

21. [L78-82] Meanwhile, the network among microbusiness operators in the Meru Betiri National Park is not going well. The low networking inhibits the achievement of community empowerment so that people do not know the potential of surrounding resources and tend to be the object and difficult to make progress. The implication of it the utilization of business opportunity do not optimal, added values become difficult and low of the selling proce of production.  
The connection between this paragraph [L78-82] and the previous paragraph [L71-77] is not clear. You should improve this paragraph so that the connection to this previous paragraph is clear.

**[R78-82] We modified the sentence as reviewer's suggestions.**

**The network between micro-businesses in Meru Betiri National Park is very weak so that business opportunities cannot be utilized optimally, besides that the lack of product added value causes the selling value of the product to below. This condition hinders the achievement of community empowerment.**

## **Methods**

22. [L91-92] Another study, Lim et al. (2017)...  
Incomplete sentence
- As another study
  - Lim et al. (2017) ... (delete "another study")

**[R91-92] We thanks the reviewer for suggestion.**

**Lim et al. (2017)**



23. [L104] The head of the villages in the Meru Betiri area  
The heads of the villages in the Meru Betiri area.

**[R104] We thanks the reviewer for suggestion.  
The heads of the villages in the Meru Betiri area.**

24. [L108] The questionnaires, which are.  
Incomplete sentence. No period needed

**[R108] We thanks the reviewer for suggestion.  
The questionnaires which are relevant to the problems or issues and continue with the group's  
problem solving**

25. [L113-114] The type of relationship between two elements in the system studied by (Al-Muftah et al.,  
2018)  
Incomplete sentence.

**[R113-114] We thanks the reviewer for suggestion, we deleted the sentence.**

26. [L136-137] Stakeholders including partner farmers, facilitator/facilitators, village had community  
leaders.  
Incomplete sentence.

**[R136-137] We thanks the reviewer for suggestion, we revised it.  
Based on the results of in-depth interviews and discussions and FGDs with Meru Betiri National  
Park experts and managers as well as FGDs from stakeholders (farmers, facilitators, village  
heads, community leaders), there are the two main factors (critical factors) are (a) Elements of  
the Purpose System; (b) Elements of the Institutional Role in the System.**

27. [L137] Three main factors can be identified.  
You should explain how you judge the three main factors (i.e, reasons or criteria)

**[R137] See revise below.**

28. [L138] The two main factors ...  
You mentioned the three main factors in the previous sentence. Why did you mention only two factors  
here

**[R138] See revise below.**

29. [L141] Twelve sub-elements  
You should explain how you identified the twelve sub-elements (i.e, criteria and indicators)

**[R137], [R138], [R141] We modified the sentence as reviewer's suggestions**

The sub-elements are classified into four sectors. The sector one is weak driver-weak dependent variables (autonomous), the relationship between these sectors is relatively small or not related. The sector two (weak driver- strongly dependent variables), the variable in this sector is very dependent on the input and actions of the system, especially on the linkage variables. The sector three is strong driver- strongly dependent variables (linkage), the relationship between variables in this sector is not stable and every action on the variable will affect the other variables. Sector Four is a powerful driver with dependent variables, the variables in this sector are called free variables whose sub elements are considered as key factors of the system.

30. [L146-147] From the result of identification of the type and number of sub-elements contained in the system purpose element can be explained as follow:  
Incomplete sentence (lack of subject)

**[R146-147] We modified the sentence.**

The results of identifying the types and several sub-elements as follows:

31. [L157-159] After all the sub-elements of the critical factors 'system objectives' (twelve sub-elements) are grouped based on analysis of the level of trust and the level dependence (figure 1 and figure 2) shows that there are three main objective of the system objective namely T3 (conservation of Meru Betiri National Park conservation area), T1 (the development of ecotourism in the Meru Betiri National Park area), and the T4 (the achievement of Meru Betiri National Park rehabilitation targets).  
The figure 1 also shows that there are three key sub-elements of success in achieving rehabilitation and conservation goals, namely T8 (synergy between Meru Betiri National Park with Development Planning Agencies of Jember District and Higher Education); T9 (strengthening of the institutional capacity of the Meru Betiri National Park local community); T10 (availability of supporting technology for regional potential development).  
You should explain why T1, T3, and T4 are the main objectives of the system objectives and T8, T9, and T10 are key sub-elements of success in achieving rehabilitation and conservation goals. In the other words, you should explain figure 1 specifically and clearly.

**[R157-159] We explained the paragraph and made it clear.**

The first step is to study the contextual relationship in the form of a SSIM-VAXO matrix (figure 1). The second phase carried out the transformation of the SSIM-VAXO into the reachability matrix (RM) of binary numbers (figure 2). Further identification of 12 sub-elements that can be grouped based on the level of driver power and the level of dependency using the ISM method to determine the hierarchical structure model (figure 3).

Based on an analysis of the level of driver power and the level of dependency (figure 3) showed that there are the lack of attention to the sub-elements will affect to conservation goal. Sub-elements T3 (conservation of Meru Betiri National Park conservation area), T1 (The

**development of ecotourism in the Meru Betiri National Park area) and T4 (the achievement of the Meru Betiri National Park Rehabilitation Targets) are in sector two. the variable in this sector is very dependent on the input and actions of the system.**

32. [L168-171] Because through synergy shows that there has been coordination, common perception, share goals, corporation complementary (there is no overlapping of activities) between related agencies so that efficiency and effectiveness of activities in the field that there are also focus on objective can be realized.  
Incomplete and unclear sentence

**[R168-171] As reviewer suggestions, we competed the sentence and make it clear. Synergy will improve coordination, common perception, complementarity (there is no overlapping of activities), so that the efficiency and effectiveness of activities that focus on goals can be realized.**

33. [L180] In order for local communities to contribute positively.  
Incomplete and unclear sentence.

**[R180] We modified the sentence. Local communities will contribute to this activity.**

34. [L180] is needed (PKHR UGM, 2007; Corvuz et al., 2018; Moswete and Thapa, 2018)  
The period is not necessary

**[R180] We modified the sentence without the period. In order for local communities to contribute positively, a strong institutional capacity is needed (Moswete and Thapa, 2018).**

35. [L182] TNMB  
What is TNMB? You should write without using abbreviation. Do the first appearance.

**[L182] The TNMB replaced by Meru Betiri National Park**

36. [L187] ... products and so that processed food product can be store longer ...  
And is not necessary

**[R187] We modified the sentence. Based on the FGD conducted by the local community in the area, guided by a facilitator from the Meru Betiri National Park Center, the information technology needed by the community in the area are technology for processing agricultural products to increase the added value of products, and technology to improve access to information and communication in the area's community which has been rather isolated due to its remote location.**

37. [L145-184] No explanation for figure 2. You should describe the key result of figure 2 clearly and specifically.

[R145-184] Please see the answer below.

38. Figure 2

Figure 2 is not clear. What do the arrows mean? Do unconnected arrow mean there is no direct interaction (e.g., between T5 and T11, between T6 and T12 also what does each level mean)

[R145-184] and [R Figure 2] We modified the sentence.

**The first step is to study the contextual relationship in the form of a SSIM-VAXO matrix (figure 1). The second phase carried out the transformation of the SSIM-VAXO into the reachability matrix (RM) of binary numbers (figure 2).**

39. [L205-208] Based on the results of analysis shown in figure 3 and figure 4 there are three institution that are the key sub-elements that act as a motivator for other institutions to participate in the rehabilitation and strengthening of local communities in Meru Betiri National Park conservation namely L1 (Meru Betiri National Park office); L6 (Jember Regency Planning and Development Agency); L11 (Higher Education).

This comment is the same as the comment above. You should explain why L1, L6, L11 are the key sub-elements. You should explain figure 3 specifically and clearly. What does the number 1-12 mean? Also how did the determine the coordinate from L1 to L12.

[R205-208] We modified our result and discussion.

**Based on the results of the contextual relationship in the form of a SSIM-VAXO matrix (figure 4), the reachability matrix (RM) of binary numbers (figure 5) and the level of driver power and the level of dependency using the ISM method to determine the hierarchical structure model (figure 6) there are three institutions that are the key sub-elements that act as a motivator for other institutions to participate in the rehabilitation and strengthening of local communities and Meru Betiri National Park conservation, namely L1 (Meru Betiri National Park Office); L6 (Jember Regency Planning and Development Agency); L11 (Higher Education). These three institutions have the same relative driving force so they need to coordinate and cooperate with each other in order to be able to further encourage the participation of related agencies in order to participate in developing Meru Betiri National Park. The ultimate goal of this structural model (as shown in Figure 6) is the realization of independence or empowerment of rehabilitation partner farmer groups. Based on Figure 4 and Figure 5 that in order to create an independent and empowered farmer group, there must be an institutional local community with a large or strong capacity.**

40. [L209] Driving force

The term of driving power as used in figure 3 are driving force and driving power same meaning, if so you should the consistent word in this paper.

**[R209] Driving force replaced by driving power**

41. [L212-213] Based on figure 3 and figure 4 that in order to create and independent empowered farmer group.

Unclear sentence

**[R212-213] [R205-208] We modified the paragraph and made it clear.**

**Based on the results of the contextual relationship in the form of a SSIM-VAXO matrix (figure 4), the reachability matrix (RM) of binary numbers (figure 5) and the level of driver power and the level of dependency using the ISM method to determine the hierarchical structure model (figure 6) there are three institutions that are the key sub-elements that act as a motivator for other institutions to participate in the rehabilitation and strengthening of local communities and Meru Betiri National Park conservation, namely L1 (Meru Betiri National Park Office); L6 (Jember Regency Planning and Development Agency); L11 (Higher Education). These three institutions have the same relative driving force so they need to coordinate and cooperate with each other in order to be able to further encourage the participation of related agencies in order to participate in developing Meru Betiri National Park. The ultimate goal of this structural model (as shown in Figure 6) is the realization of independence or empowerment of rehabilitation partner farmer groups. Based on Figure 4 and Figure 5 that in order to create an independent and empowered farmer group, there must be an institutional local community with a large or strong capacity.**

42. [L217-224] The result ..... park

More than just comparing results with previous studies, you should mention why the result where obtained. Also, you should mention significant (i.e, how can the result of the study contribute to the study field). In the limitation (i.e, what kind of further research are necessary) of this research.

**[R217-224] We modified the paragraph.**

**The results of this study are in accordance with the results of research conducted in several places in the world such as Zimbabwe (Ntuli & Muchapondwa, 2018) which states that the role of institutional and collaboration have a strong effect on the success of biodiversity on the conservation of national parks and in accordance with the results of a review of national park forest management for 40 years in several countries in the world all of which concluded that strong institutional capacity of local communities is needed to form social capital and also for learning for local communities so that they can become independent (Gilmour, 2016).**

43. [L225-227] In the structural model of the sub-elements the critical factor in the institutional role of the office related to technical aspects (there are seven services) is in level 3, which means these services have quite a strong impetus but also have a large enough dependency.

Unclear sentence. You should improve the sentence clearly

What is level 3. You should describe specifically.

**[R225-227] We described it spesifically.**

**In the structural sub-elements model, the critical factors in the institutional role of the office related to technical aspects are in quadrant of three, which means these have strong enough but also have large enough dependencies.**

### **Conclusion**

44. [L225-227] There are three ... higher education with an interest  
Very long sentence. You should improve the sentence so that readers can understand your conclusion clearly.

**[R225-227] In line with the reviewer's suggestion, we shortened and modified our Conclusion. There are two important factors that affect the rehabilitation, conservation and strengthening of the institutional capacity of local communities in the Meru Betiri National Park are the purpose of the system and the role of institutions in the system. The key sub-elements on the purpose of the system such as synergy between related institutions, strong institutional capacity of local communities, and availability of technology for development area. The achieving the purpose of rehabilitation and conservation is largely determined by the development of local institutional capacity and the three main institutions that have an important role are Meru Betiri National Park, Development Planning Agency of Jember District, and Higher Education**

### **Recommendation**

45. [L209] Recommendation  
Policy recommendation

[L209] Policy recommendation

Based on a review of the academic literature and information from the conclusions of this study, the following are recommended: (1) Strengthening the synergy and coordination between Meru Betiri National Park, the Jember Regency Development Planning Agency and higher education, (2) Provision of facilities and intensive assistance to increase the institutional capacity of local communities, and (3) Appropriate technology to increase the added value of agricultural products that are abundant in the region but are easily damaged. Also, access to capital in the form of financial loans, production facilities, market provision, business networks and information technology is provided for residents in the Meru Betiri National Park area

46. [L209] Based on information from the result of research conducted necessary policy intervention as follows:  
Incomplete sentence (lack of verb)

**[R209] We completed the verb as reviewer's suggestion.**

**Based on information from the result of research conducted necessary policy intervention are as follows:**

14. [L61-62] The general concept in the management of national parks based on the framework of ecological and social systems in the region (McGinnis & Ostrom, 2014).
  - Incomplete sentence (lack of *verb*)
  
15. [L61-66] The general concept in the management of national parks based on the framework of ecological and social systems in the region (McGinnis & Ostrom, 2014). The park managers must consider not only local ecology and social dynamics in the national park area (Mathevet et al., 2016), but also adopt an interdisciplinary approach. Nonetheless, the park managers acknowledge inherent uncertainties and difficulties in predicting ecological and social dynamics (Dewulf et al., 2005; Brugnach et al., 2008; Allen and Gunderson, 2011).
  - The connection between this paragraph (L61-66) and the previous (L56-60) and following (L67-70) paragraphs is unclear. You should make logic (i.e., relationships between paragraphs) more clearly.
  
16. [L69-70] Based on research and preliminary observations...
  - Whose research and observations? You should make the sentence clearly.
  
17. [L72] ...caused by a lack of initiative and participation of citizens in the program.
  - Please mention the reason why a lack of initiative and participation of citizens in the program causes the problems of lack of strengthening the institutional capacity of the local communities.
  
18. [L71-77] One of the problems is the lack of strengthening the institutional capacity of the local communities in the villages caused by a lack of initiative and participation of citizens in the program. Institutional aspect is one of the most important aspects of community empowerment. Others issues in the institutional aspects of local communities were lack of role and synergy among stakeholders, lack of synergy between sectors, lack of synergy with government, lack of public access to capital (financial and production input), lack of marketing knowledge, lack of science and technology, the policymaking process, and lack of social capital (trust, togetherness, and networking).
  - Cited references must be specified
  
19. [L78] micro business operators
  - What are the micro-business operators? Please describe specifically.
  
20. [L80-82] The implication of **it, the** utilization of business opportunities do not **optimal**, added values become difficult and low of the selling price of production.
  - Incomplete sentence
    - lack of conjunction
    - “optimal” is *adjective* (not *verb*)
  
21. [L78-82] Meanwhile, the network among micro business operators in the Meru Betiri National Park is not going well. The low networking inhibits the achievement of community empowerment so that people do not know the potential of surrounding resources and tend to be

the object and difficult to make progress. The implication of it, the utilization of business opportunities do not optimal, added values become difficult and low of the selling price of production.

- The connection between this paragraph (L78-82) and the previous paragraph (L71-77) is not clear. You should improve this paragraph so that the connection to the previous paragraph is clear.

#### Methods

22. [L91-92] Another study, Lim et al. (2017)...

- Incomplete sentence
  - As another study, Lim et al. (2017)...
  - Lim et al. (2017)... (delete "another study")

23. [L104] the head of villages in the Meru Betiri area

- the heads of villages in the Meru Betiri area

24. [L108] the questionnaires, which are

- Incomplete sentence (No period needed)

25. [L113-114] The type of relationship between two elements in the system studied by (Al-Muftah et al., 2018).

- Incomplete sentence

#### Results and Discussion

26. [L136-137] stakeholders including partner farmers, facilitators/facilitators, village heads, community leaders)

- Incomplete sentence

27. [L137] three main factors can be identified

- You should explain how you judged the three main factors (i.e., reasons or criteria).

28. [L138] The two main factors...

- You mentioned the three main factors in the previous sentence. Why did you mention only two factors here?

29. [L141] 12 sub-elements

- You should explain how you identified the 12 sub-elements (i.e., criteria or indicators)



30. [L146-147] From the results of identification of the type and number of sub-elements contained in the System Purpose Element can be explained as follows:
- Incomplete sentence (lack of *subject*)
31. [L157-159] After all the sub-elements of the critical factors "System Objectives" (12 sub-elements) are grouped based on an analysis of the level of trust and the level of dependence (figure 1 and figure 2) shows that there are three main objectives of the system objectives namely T3 (conservation of Meru Betiri National Park conservation area), T1 (The development of ecotourism in the Meru Betiri National Park area) and T4 (the achievement of the Meru Betiri National Park Rehabilitation Targets).
- The figure 1 also shows that there are three key sub-elements of success in achieving rehabilitation and conservation goals, namely T8 (Synergy between Meru Betiri National Park with Development Planning Agency of Jember District and Higher Education); T9 (Strengthening the institutional capacity of the Meru Betiri National Park local community); T10 (Availability of Supporting Technology for Regional Potential Development).
- You should explain why T1, T3, T4 are the main objectives of the system objectives and T8, T9, and T10 are key sub-elements of success in achieving rehabilitation and conservation goals. In other words, you should explain Figure 1 specifically and clearly. What does the number 1 to 12 mean? Also, how did you determine the coordinates from T1 to T12?
32. [L168-171] Because through synergy shows that there has been coordination, common perceptions, shared goals, cooperation complementary (there is no overlapping of activities) between related agencies so that efficiency and effectiveness of activities in the field that are also focused on objectives can be realized.
- Incomplete and unclear sentence
33. [L180] In order for local communities to contribute positively...
- What do they contribute positively? You should improve the sentence clearly (for example, in order for local communities to contribute to **forest management** positively...)
34. [L180] is needed. (PKHR-UGM 2007; Corvuz et al.2018; Moswete and Thapa, 2018).
- The period (.) is not necessary
35. [L182] TNMB
- What is "TNMB"? You should write without using abbreviations due to the first appearance.
36. [L187] ...products **and** so that processed food products can be stored longer...
- "And" is not necessary.
37. [L145-194]
- No explanation for Figure 2. You should describe the key results of Figure 2 clearly and specifically.

38. Figure 2

- Figure 2 is not clear. What do the arrows mean? Do unconnected arrows mean that there is no direct interaction (e.g., between T5 and T11, between T6 and T12)? Also, what does each level mean?

39. [L205-208] Based on the results of the analysis shown in Figure 3 and Figure 4, there are three institutions that are the key sub-elements that act as a motivator for other institutions to participate in the rehabilitation and strengthening of local communities and Meru Betiri National Park conservation, namely L1 (Meru Betiri National Park Office); L6 (Jember Regency Planning and Development Agency); L11 (Higher Education).

- This comment is the same as the comment above (No. 31). You should explain why L1, L6, L11 are the key sub-elements. You should explain Figure 3 specifically and clearly. What does the number 1 to 12 mean? Also, how did you determine the coordinates from L1 to L12?

40. [L209] driving force

- The term of “driving **power**” is used in Figure 3. Are “driving force” and “driving power” same meaning? If so, you should use the consistent word in this paper.

41. [L212-213] Based on Figure 3 and Figure 4 that in order to create an independent and empowered farmer group...

- Unclear sentence

42. [L217-224] The results of this study are in accordance with the results of research conducted in several places in the world such as Zimbabwe (Ntuli & Muchapondwa, 2018) which states that local community institutions have a positive influence on the conservation of national parks; the same results were obtained from research on national parks in Botswana (Moswete & Thapa, 2018) and in accordance with the results of a review of national park forest management for 40 years in several countries in the world all of which concluded that strong institutional capacity of local communities is needed to form social capital and also for learning for local communities so that they can become independent (Gilmour, 2016). Therefore a strong community institution can be concluded as having an important role in helping to conserve national parks.

- More than just comparing results with previous studies, you should mention why the results were obtained. Also, you should mention significance (i.e., how can the result of this study contribute to the study field) and limitations (i.e., what kind of further research are necessary?) of this research.

43. [L125-127] In the structural model of the sub-elements - the critical factor in the "institutional role" of the offices related to technical aspects (there are 7 services) is in level 3, which means these services have quite a strong impetus but also have a large enough dependency.

- Unclear sentence. You should improve this sentence clearly.
- What is “level 3”? You should describe specifically.

## Conclusion

44. [L232-240] There are three important factors (main elements) that affect the rehabilitation, conservation and strengthening of the institutional capacity of local communities in the Meru Betiri National Park are (i) the "Purpose" of the system, (ii) the "Weaknesses" System, and (iii) "The Role of Institutions" in the system; Structural modeling of sub-elements on the "Goal" factor using the ISM method shows that there are three key sub-elements, namely (i) synergy between related institutions, (ii) strong institutional capacity of local communities, (iii) availability of technology for development area; and The achieving the goals of rehabilitation and conservation is largely determined by the development of local institutional capacity and the three main institutions that have an important role are: (i) TNMB, (ii) Development Planning Agency of Jember District, (iii) Higher Education with an interest.
- Very long sentence. You should improve this sentence so that readers can understand your conclusion clearly.

## Recommendation

45. [L243] Recommendation

- **Policy** Recommendations

46. [L244] Based on information from the results of research conducted necessary policy interventions as follows:

- Incomplete sentence (lack of *verb*)  
Based on information from the results of research conducted necessary policy interventions **are** as follows:

Close

\* Denotes required field