Collaborative governance in new era for problem solving: a literature review

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Abstract. Problems in the world today are very complex, one of the problems experienced by all countries is climate change. Climate change is a problem in the current era because it has a huge impact on the survival of all living things. One way to overcome this is through collaborative governance. Collaborative governance is the right solution to tackle the problem of climate change. Collaborative governance can overcome the problem of climate change by embracing all stakeholders in the public, private and community sectors. This study uses a literature review approach based on search results in the form of journal articles and other relevant articles in this paper, using keywords, restrictions on the year of publication of the article, and the database that has been set. The results of this study indicate that collaborative governance is used by increasing community participation and multilevel governance, but it also has obstacles, namely low community participation so that full government involvement in increasing community participation is needed to support collaborative governance.

1. Introduction
The development of the modern era is marked by the presence of interrelated problems, one of which is about climate change. This problem becomes a very important topic because it will affect all sectors including public services, as well as services in other sectors that also will be disrupted. Climate change has been a concern in the world since the 1990s, this issue is very vulnerable because it is related to the survival of all living things in it, including humans [1]. Climate change is one of the urgent issues because it relates to pollution [2], loss of livelihoods of residents of an area that will lead to poverty [3].

According to data from the Asian Development Bank [4], the impact of climate change occurring in Pakistan in the agricultural sector caused agricultural productivity to shrink by 8-10 percent by 2040. Then in Syria also experienced the same impact in the agricultural sector, there were 1.5 million population Syria is undergoing urbanization due to a drought in 2011 [5]. In addition to agriculture also to other sectors such as health according to WHO (World Health Organization), there are at least 250,000 population of the world who have died due to increased malaria and dengue fever in the span of 2030-2050 [6]. In Indonesia, the average temperature increase of 0.2-1°C in the range of 1970-2004 was the impact of flooding in several areas and there were predictions of rising sea levels by 0.56 meters until 2050 [7]. From the above data, of course, special attention is needed by the government to address the impacts of climate change.
Each problem must, of course, the government cannot do it alone so it needs the support of other stakeholders with different scientific disciplines. In the field of Public Administration try to develop a solution in dealing with climate change problems by integrating and discussing the environment that has an impact on climate change through policies from the central and local governments [8]. The macro-level policies by the government will involve three (three) scopes that are environmental policies, government, and regulatory policies. These three scopes will be implemented by local governments with full supervision from the central government.

There are several research about collaborative governance that is [9], this research was conducted in 2014 in Chile, South America. This paper revealed the impact of collaborative on the environmental issue. One of the impacts on the environmental issue is politics and capacity building for the community, politics will be centered in a government that has the power line to act as a regulator and law control. Meanwhile, the community itself will be developed to be able to work together on environmental issues.

This research has not specifically discussed how the collaborative governance patterns are applied and have not explained in detail about the other impacts caused by climate change. This paper only investigates how collaborative governance becomes one of the methods that fit in this current era especially in how to encounter climate change. However, the implementation of collaborative governance will deal with the private sector and the community. Therefore, the three actors in collaborative governance will meet with each other and take a joint decision to resolve this problem. In this study used a systematical literature review to find articles based on keywords through a database.

2. Research method
This paper employed a Systematic literature review with support from the data generated from research result published in journal and other publication. This paper utilizes search engine from databases such as Scopus, Taylor and Francis Group, and Science Direct [10]. from 2007 to 2019. Two keywords that are collaborative governance and climate change, as well as the combination of the two, are used. The keywords are used to minimize the variety of data and make it easier to find relevant results in this paper.

2.1. Paper search and retrieval strategies
There are at least one research questions In order to obtain the research objective. These research questions will help to gather all the information needed in this paper.
1. (RQ 1) How collaborative governance become a solution in this current era?
   There are several steps in the literature review to construct this paper. The first step is searching for related literature based on keywords and year limits that have been set using a database. Then, the second step is to identify and analyze through paper outputs. In this step, an elimination process of some papers which were found at the first step is conducted by:
   1. Eliminating the title paper that has no relation with collaborative governance and climate change.
   2. Eliminating the paper that does not belong to journal articles or proceedings.
   3. Eliminating papers that only use literature review as well.
   The results of this second stage will be re-done in-depth analysis of the article content and the results of the selected article. The selection is done by assessing the quality of the paper based on the formulation of the problem or Quality Assessment (QA). The list of explanations in the next discussion.

2.2. Research question or quality assessment
Research questions or Quality Assessment (QA) in this paper are formed based on the research question. There are at least one research questions as follow:
1. Does the paper obtained contain information to answer (Research question) RQ1?
   Each research question has a score of 0 for "no" and 1 for "yes". The papers will be sorted again if the score is less than 5. This method is employed to make the readers are easy to understand this paper.
3. Result and discussions

The results of the literature review that have been done by using these 2 keywords, at least the researcher found a journal article with the following details:

| Database                        | Result with keywords | Filtration | Result |
|---------------------------------|----------------------|------------|--------|
| Scopus #1                       | 40                   | 13         | 7      |
| Scopus #2                       | 658                  | 45         | 8      |
| Taylor and francis group        | 407                  | 16         | 7      |
| Science direct                  | 295                  | 46         | 6      |
| **Total**                       |                      |            | **28** |

3.1. Discussions

There are 28 articles generated from 3 databases, at the first stage, this literature search is performed based on the proposed query. There are 1,400 papers that discuss collaborative governance and climate change as well as a combination of the two at the first search. The papers consist of 40 articles generated from Scopus database Scopus. There are 658 articles generated from the same database. Meanwhile, there are 407 articles and 295 articles generated from Taylor and Francis, and Science Direct respectively. Then, the paper selection is conducted in 3 reviews that are review 1, review 2, dan Review Quality Assessment sequentially. From Review 2 there are 120 papers of 58 Scopus indexed articles, 16 papers generated from Taylor and Francis, and 46 papers from Science Direct.

Review Quality Assessment based on Quality Assessments is also conducted. The assessment obtaining 28 papers. There are 15 papers generated from Scopus, 7 papers are generated from Taylor and Francis, and 6 papers generated from Science Direct. From this stage, it can be seen that each stage has a phase of elimination which is quite significant, that is, from 1400 papers, there are only 28 papers are used. The result description and analysis to answer the research question are explained in the next section.

3.2. Collaborative governance category is the solution to the current era

| Database                        | Result with keywords                                                                 | Filtration | Result |
|---------------------------------|--------------------------------------------------------------------------------------|------------|--------|
| Disaster Adaptation             | Providing community learning to be able to respond to climate change and the impact on human life. | [11]       | 6      |
| Society Participation           | The Increasing participation in the community is needed as a strengthening of the government system in dealing with problems. | [12]       | 10     |
| Disaster mitigation             | Learning to each actor for disaster prevention from climate change.                 | [13]       | 1      |
| Conflict Management             | The problem of climate change will indirectly lead to a conflict of interest and needs to be managed wisely. | [14]       | 2      |
| Multilevel Governance           | Different hierarchical governmental cooperation which has a focus in handling this problem. | [2], [15]  | 9      |

Based on table 2 above, it has been seen that in the range 2007-2019 it appears that Collaborative Governance is still an alternative solution to alleviate the problem and can answer the challenges at this
time. At present, the problem of climate change is a phenomenon that is difficult to predict, especially the negative implications for humans in the long run. There are 2 categories of solutions with the highest value, the first is community participation because it is needed by the government in handling this problem, especially in strengthening the governance system. Second is multilevel governance cooperation between governments, that the government is not only in the central government but in the regional government as an agent of change in the region jointly solving the problem of climate change and the impact of climate change.

At this time collaborative governance can be used as a way to overcome existing problems. The researcher sees that collaborative governance also has challenges or obstacles when it is implemented, it is felt that this needs to be explained because it becomes a foothold for stakeholders in carrying out this collaborative activity. Based on the article above, the biggest challenge is community participation, of course, it is expected that in collaborative governance activities the government must play an active role in increasing community participation through a cooperative approach, also strengthened by policies from the government both at the regional and central government levels.

4. Conclusions
This study uses a Systematic Literature Review approach to the problem of climate change and climate change impacts. The results obtained in the range 2007-2019 there are at least 1400 research articles found by researchers. The results of this SLR show that collaborative governance is a solution in the current era, namely community participation and multilevel governance. The use of collaborative governance also has obstacles, namely the community participation that must be grown by the government to become part of good governance. Besides, future researchers can use SLR on other issues through the collaborative governance approach to creating a track record of the development of collaborative governance

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