

THE EFFECTIVENESS OF COLLABORATIVE GOVERNANCE IN MANAGING LAND-USE AND LAND-OWNERSHIP CONFLICTS

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Abstract

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In many developing countries, land conflicts have been recognized as one of the primary triggers for anti-social behavior phenomena. In this regard, collaborative governance (CG) has been trusted as one of the viable mechanisms to manage conflicts (Emerson et al., 2011). However, some cases reveal that it seems considered too vague and less effective to manage the current conflict. This research aims to explore how collaborative governance can be optimized to be more effective in facilitating conflict resolution regarding land use and land ownership clashes. It applies a living lab methodology to sustain data collaborative mechanisms intended to gain an understanding of anti-social behavior and collaborative insight. This framework is also expected to fill the gap between the current collaborative perspective and the failure of existing mechanisms. The result of this study confirms that the existing mechanism lacks social value, and thus it may influence the degree of effectiveness in some ways. In the end, the living lab process has managed to successfully optimize two prominent aspects regarding the institutional environment as well as the collaborative structure to increase its effectiveness. This finding contributes to fulfilling the argument of Dekker et al. (2019) and Ruijer (2021) about the living lab's role in facilitating the interaction within antisocial cases.

Keywords: Collaborative Governance, Land Conflict, Living Lab, Data Collaborative

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1. INTRODUCTION

In developing countries, land has been recognized as one of the primary sources of livelihood where most of people's economic activity is performed conventionally (Bekele et al., 2022). In Indonesia, the series of colonialist histories from the Dutch, Japan, and after the official independence era have resulted in numerous cases of unofficial transfer of land ownership in some regions (Lucas, 1992). These informal transfers then might generate unregistered ownership in certain land locations. The official data from the Indonesian National Land Agency (INLA) reports that in 2020 there were at least 56.782.072 spots of land remaining unregistered out of 126.000.037 locations (Aditya et al., 2020).

Land conflicts frequently arise due to inappropriate acquisition processes regarding land use as well as land ownership in practice (Wehrmann, 2008). It is driven by the dissatisfaction or disagreement of certain actors over the rights and interests undertaken by others (Fienitz & Siebert, 2022). Reports from the Consortium for Agrarian Reform of Indonesia known as *Konsorsium Pembaruan Agraria* (KPA) confirm a fluctuating number of land conflict victims with various kinds of violations during the last decade. At least more than a hundred cases have been reported as criminalization every year, especially between 2015 and 2022 and roughly half of them have occurred with violence (KPA, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022). Under this circumstance, the involved actors might come from individual local communities such as local non-governmental organizations (NGOs), private institutions, or even public organizations (McNaught, 2024). They usually confront one or more competing interests over decision, access, or compensation regarding the right of land or property.

Collaborative governance (CG) has been recognized as one of the viable solutions when numerous actors share an interest in each other in certain situations (Thahir, 2022). It offers a multilevel framework facilitating the method for one or more public agencies to engage with other stakeholders in collective decision-making. Thus, it is applicable for a wide range of policy domains involving the participation of multiple actors such as voluntary agreement (VA) (Lelieveldt, 2023), covenants (van der Heijden, 2014), negotiation (Plotnikof & Pedersen, 2019), bargaining (Rubin et al., 1999), or conflict resolution (Böhling, 2019). However, derived from its conceptual thought, the form of CG is still amorphous and inconsistent (Emerson et al., 2011; Bryson et al., 2015). Accordingly, it has a wide-ranging pattern of model and implementation practice.

In this regard, the impact of CG is inevitably uncertain, for instance, it may generate positive or negative contribution (Ulibari, et al., 2023), direct or indirect impact (Sun, 2017), first-second-third order effects (Lubell et al., 2009) or other kinds of impact by various exposures. Bryson et al. (2006) add, in some ways, the CG cannot solve all the problems they take. It is then leaving a challenge for policymakers to adjust the CG formulation to meet the best practices under the CG implementation phase (Adni et al., 2024). Likewise, in this theoretical argument, the implementation of CG to manage land

conflict happening in Indonesia has not always generated positive results.

Focusing on the CG's implementation to manage the land conflict in Indonesia allows us to zoom into the past empirical studies which have resulted in two major strains. First, it is broadly recognized that the CG framework generates a positive impact such as (Lelieveldt, 2023), Liu et al. (2021), or Böhling (2019). The second group of findings concludes the limitation of CG in managing land conflict and consequently, they were resulting in conflict stagnation or CG's failure. The study conducted by Balele (2023) reveals the skeptical issues that may have occurred among stakeholders even before the CGs were implemented. Furthermore, Mukhlis and Perdana (2022) explored that the institutional issues that are motorized by cultural and political influence have commonly interfered with the CG process. In this case, Madiun Regency is one of the local regions in East Java Province, Indonesia with plenty of experience in land conflicts where cultural and political dimensions are frequently intersected. In the Madiun context, the CG process to facilitate conflict resolution is frequently inhibited by various factors such as poor coordination, lack of integration of data systems, and limited experience of institutional capacity.

Thus, given the importance of finding the best practice and adjustment of CG to manage land conflict in the Madiun Regency, this paper aims to explore the effectiveness of CG with specific attention being given to land use and land conflict resolution.

To accomplish this, we structured the paper as follows. Section 1 presents the background of land conflicts and the reason why CG is considered as one of the viable alternatives. Section 2 elaborates on a comprehensive exposure of CG from multiple perspectives intended to be applied as a theoretical tool for upcoming sections. Section 3 explains the living lab as our methodological basis with the CG and data collaborative scheme as its backbone. Section 4 provides the findings and analytical results promoting the story of how effective CG has been found in managing land conflict in the Madiun Regency. Section 5 discusses these research results. Section 6 closes the discourse of this paper by providing a conclusion that has been inferred from the previous sections.

2. LITERATURE REVIEW

2.1. Collaborative governance: A literature review

In a growing number of public administration literature, the term collaboration has been recognized through various interpretations, e.g., partnerships, collision, or agreement (Plotnikof, 2015; Lelieveldt, 2023). It may occur for many reasons, especially when governments need a desirable strategy with other parties' participation (Elhajj, 2019; Kim et al., 2023). Furthermore, the term governance under collaboration context expresses a process to steer the decision and action where public, private, as well as civil society are involved (McNaught, 2024). Thus, both terms illustrate how collective action and the steering process are delivered under certain situations.

These genuine conceptions of CG are frequently manifested in a various definition and concepts following its practical usage and implementation. Emerson et al. (2011) convey that the definition of CG is still amorphous and inconsistent. While others such as Agranoff and McGuire (2012) and Thomson and Perry (2006) even have wider interpretations of CG. In addition, scholars like Ansell and Gash (2008) define narrower definitions by highlighting several criteria addressing the shape of CG. In short, the definition and contextual understanding of CG can be interpreted in multiple ways based on their different features. Bryson et al. (2015) in their study found that the definition of CG may be compared and presented in a matrix table (see Table A.1, Appendix).

Although many scholars have defined CG through various explanations, most of their arguments are retrieved from the diversification aspect among organizational theories, for example, Bryson et al. (2006), Thomson and Perry (2006), Ansell and Gash (2008), and Agranoff and McGuire (2012). Accordingly, they generally have a similar point of view regarding CG exposure such as collaborative structures and processes but with different features.

Each of the features contains specific concerns such as Bryson et al. (2006) and Ansell and Gash (2008) with their attention to the early phase of CG. Both of their works mentioned the importance of starting points and initial conditions that have motivated participating actors to be involved within a collaborative framework. Furthermore, scholars like Provan and Kenis (2008) have attempted to describe the ideal types of governance sustaining the CG implementation. Agranoff and McGuire (2012) adds a point of view regarding the concern of power imbalances among collaborative actors. Completing the feature, the more recent framework such as Emerson et al. (2011) even promotes the variable beyond internal collaborative affairs. Their notion highlighted the influence of existing regimes, policy, and legal framework as the external context supporting the CG's mission.

2.2. Data collaborative

In the earlier section, the theoretical discourse has been focused on elaborating the CG's literature with their prominent thoughts such as Koschmann et al. (2012), Thomson and Perry (2006), Ansell and Gash (2008), and Emerson et al. (2011). Yet in this section, the theoretical elaboration will be continued with the perspective of other scholars such as (Bryson et al., 2015), Klievink et al. (2018), and Ruijter (2021) who are using the CG concept as a backbone to facilitate data sharing among stakeholders which is commonly known as data collaborative.

The concept of data collaboration was born due to the faith that a complex problem will be solved

more easily with symmetric understanding and action. Susha et al. (2018) argue that the trend of using data collaboration has risen aligning together with the development of information technology. It is usually applied by taking a CG concept as a framework to maintain equal information transfer such as Klievink et al. (2018) who explores data collaboration by using Ansell and Gash's (2008) framework. In addition to this example, Susha and Gil-Garcia (2019) manage to investigate data collaboration by lying on Emerson et al.'s (2011) concept.

In this research the role of data collaborative processes is crucial. It will be applied under living lab procedures especially when the mechanism of CG fails to be implemented due to several reasons. The application of data collaboration commences by assessing the initial condition, leadership aspects, as well as prehistory of conflicts and existing tensions which become the input toward the data collaborative process through a defined structure. In this process, each of the actors is demanded to embed a commitment and desire to reach further action. Thus, the mechanism of data collaboration can be delivered in a more accurate way, and the result of CG's implementation may fulfill the desirable outcome.

3. RESEARCH METHODOLOGY

This research uses a living lab as the methodological framework emanating data collaborative governance. The living lab or living laboratory was originally developed based on technological science aimed at co-creating innovation from real-life settings users to manage anti-social behavior (Ruijter, 2021). However, its recent development has elaborated its application in social sciences particularly in public administration (Dekker et al., 2019). It is performed by establishing a collaborative research environment involving multiple actors joining in a collaborative governance scheme. Thus, it may reflect a real-life setting on how the collaborative process works to manage the land use and land ownership conflicts that frequently occur in Madiun Regency.

This study applies a living lab method over two-term periods due to the COVID-19 pandemic. The first period has been conducted for eleven months (between April 2019 to March 2020) while the second one commenced in September 2021 until November 2022. Therefore, the total length of the period is two years and one month. In the first period, we conducted three meetings and twice focused group discussion (FGD). Then in the second round of the period we conducted six meetings which are organized regularly every two months. The data collection process has been gathered during the meetings and FGDs as presented in Table 1.

Table 1. Data collection and expected result overview

No.	Elements of data collaborative (Bryson et al., 2015; Hvitsand et al., 2022)	Detailed activities under living lab (Susha et al., 2018; Klivlink et al., 2018; Ruijer, 2021)	Data collection process	Frequency	Expected result
1	Initial condition and early drivers	<ul style="list-style-type: none"> • Preliminary study; • Early assessment of all case studies. 	Meeting	1	Early portraits of CG's failure to manage land conflict
2	Collaborative data-driven structure	<ul style="list-style-type: none"> • Determining the CG issues; • Data collection; • Sharing mechanism. 	Focus group discussion and meeting	1 (each)	Finding the problem and ensuring the effectiveness of the data-sharing mechanism.
3	Collaborative data-driven process	<ul style="list-style-type: none"> • Expertise mobilization; • Face-to-face meetings; • Technological training; • Seeking viable alternatives. 	Focus group discussion and meeting	1 FGD and 2 meetings	The embryo of the CG mechanism which is effective in managing land conflict in Madiun Regency.
4	Accountability and outcome	<ul style="list-style-type: none"> • Result interpretation; • Injecting the model to a broader community. 	Meeting	2	Complete implementation of CG to manage land conflict in Madiun Regency.
5	Validation	<ul style="list-style-type: none"> • Final assessment. 	Meeting	1	A successful result of effective CG assessment.

Source: Authors' elaboration.

The contributors of our living lab consist of representative participants from different institutions who are representing each of interest regarding the land conflict resolution process. In this case, we involve the participation of local police officers, bureaucrats from the agency of agrarian and spatial planning affairs, a representative of an NGO named "Mayapada Pinasthi", several master and doctoral students as representatives from the academic sector, and representatives from local civilians who are confronting their interest over land conflict affair. In this study, we have identified and decided to use eight cases of land conflict as our object: 1) individual conflict among civilians regarding inheritance in Wonoayu village; 2) inheritance land conflict in Sambirejo village; 3) land conflict in Purworejo village regarding land ownership; 4) inheritance land conflict in Kepel village; 5) conflict of land border in Kedungrejo village; 6) conflict of land ownership border in Jatisari village; 7) land conflict between some civilians living around railways area with the public railway's company of Indonesia or locally known as PT. KAI; 8) conflict of land ownership in Western Banjarsari village. Regarding the database of these conflicts, we retrieved them from the local police station of Madiun Regency. In addition to these multiple cases of conflict, we are required to limit the participation of local civilians involved in the conflicts to only four people (consisting of two people from each confronting party) in one case of conflict.

Last but not least, the data collection technique in this inquiry covers several interviews and survey activities. Hence, the interview process is conducted by semi-structured and structured interview mechanisms during the meeting and FGD process, while the survey-based data is retrieved during the FGD only. In short, this methodology is inherited mainly by qualitative research with an alternative model based on a real social setting. Our methodological process has been done by some preceding studies for instance Susha et al. (2018), Ruijer (2021), Hvitsand et al. (2022), and Afacan (2023) which resulted in various insights either from innovative solutions or practical CG implementation. Thus, derived from these successful researches, this study will adopt the methodological process and data collection technique with appropriate adjustments suiting for land conflict case resolution.

Furthermore, in the data analysis phase, we apply the data interactive model of Miles et al. (2014) to simplify the data condensation and concluding process.

4. FINDINGS

4.1. Early portraits of existing collaboration for land-conflict management

Before this research commenced, we had previously delivered a preliminary study intended to explore the suitability between land-conflict cases in Madiun Regency, the current mechanism, and our propositions. It found that collaborative mechanisms have been chosen as the main option for conflict resolution. Hence, the government either from agencies of agrarian or spatial planning affairs or local police officers is attempting to promote restorative justice where law procedure is concerned to focus on the source of conflicts. Mr. Agus as a representative of local police officers' conveys:

"... Regulation number 6/2019 suggests police officers implement effective conflict resolution by focusing on the source of conflict and not on the other systemic attributes or external interference. In this case, a principle like restorative justice or predictive policing will be implemented in common..." (personal communication, June 25, 2018).

The statement from Mr. Agus confirms the genuine effort from stakeholders to conduct a persuasive method tackling anti-social behavior such as the land conflict phenomenon. Under this circumstance, the collaboration scheme is commonly applied as the vehicle carrying the interests of each involved stakeholder.

Before the first round of our living lab commenced, the existing collaborative scheme was normally initiated by village government or district-level government together with local police officers, representatives from agencies of agrarian and spatial planning affairs, and local civilians who are involved or confronted with land conflicts. The previous implementation of collaboration did not involve other participants such as local NGOs or consultative assistance from the academic sector. Although the existing collaborative mechanism has proven its performance in managing numerous cases of land ownership conflicts, some other cases

(including the eight conflict cases in this research) illustrate the flaws and limitations of the existing method.

4.2. First round of living lab

In our previous plan, there is no genuine intention to divide the living lab process into two phases. However, since the coronavirus outbreak prevented the participant from conducting face-to-face

dialogue in the middle of 2022 then it left us no choice but to divide the process. During the first round of inquiry, we found that the eight cases have different problems which have become significant obstacles preventing them from being solved by regular collaboration. These eight cases are comprised of one land-use conflict and seven land-ownership conflicts. Accordingly, to specify the discussion of each problem, we put a label on each land conflict case as seen in Table 2.

Table 2. Detailed information on each land conflict

No.	Type of conflicts/anti-social phenomenon	Location	No. of mediation efforts on the conflict	The primary reason for the existing collaboration failure	Label	Status
1	Land inheritance — Individual	Wonoayu Village	2	<ul style="list-style-type: none"> • Failure of consensus 	WOV-1	Unsolved
2	Land inheritance — Individual	Sambirejo Village	3	<ul style="list-style-type: none"> • Pre-history of conflicts; • Asymmetric information among stakeholders**. 	SAV-2	Under mediation
3	Land border conflict — Individual and community	Purworejo Village	3	<ul style="list-style-type: none"> • Data difference *; • Asymmetric information among stakeholders**; • Lack of understanding; • Failure of consensus. 	PUV-3	Unsolved
4	Land inheritance — Individual	Kepel Village	5	<ul style="list-style-type: none"> • Data difference*; • Pre-history of conflicts. 	KEV-4	Unsolved
5	Land border conflict — Individual	Kedungrejo Village	4	<ul style="list-style-type: none"> • External actor interference; • Pre-history of conflicts; • Lack of understanding. 	KDV-5	Unsolved
6	Land ownership conflict — Individual	Jatisari Village	4	<ul style="list-style-type: none"> • Asymmetric information among stakeholders**. 	JTV-6	Under mediation
7	Land ownership conflict — Community and government's enterprise	Kedungrejo Village	8	<ul style="list-style-type: none"> • Asymmetric information among stakeholders**; • Lack of understanding; • Failure of consensus. 	KEV-7	Unsolved
8	Land ownership conflict — Individual	Western Banjarsari Village	1	<ul style="list-style-type: none"> • Asymmetric information among stakeholders**; • Failure of consensus. 	WBV-8	Unsolved

Note: * Each actor has different versions of official data (for example different versions of land certificates, official covenant documents, etc).

** Each actor has different information (even though they have similar data versions).

Source: Authors' elaboration.

The first round of our living lab pertains to exploration regarding the general background and existing condition of each conflict and anti-social phenomenon related to land acquisition problems. Our observation reveals that most of the obstacles emerging during the collaboration process to manage land conflicts are triggered by asymmetric information and different views of data owned by each confronted stakeholder.

"... As part of the traditional generation, many of our society prefer to consider the historical view of land acquisition rather than the legal aspects, then the problem is the historical view might be different perspectives with the rest..." (Head of Kepel village, Madiun Regency, personal communication, March 13, 2022).

This phenomenon warned us that the legal aspect should become the main highlight of the data-sharing process. Furthermore, regarding land border conflicts such as PUV-3 and KDV-5 where both conflicting parties have their own version of the certificate, then we manage to distribute aerial photos as part of data sharing to synchronize the perspective among them. Besides the legal aspect and aerial picture, other data-sharing components cover technical guidelines to manage land conflict, planning documents of land usage and land permits, as well as land acquisition history documents.

After we obtain comprehensive portraits of the environmental background and determine the essential data, the following process is the mobilization of experts carrying the needs of technical guidelines establishment and training to the participant. In this process, the main initiator is the researcher, local police officer, local society (including heads of villages), and bureaucrats who are later inviting representative participation from local NGOs, and the academic sector to strengthen the critical thought regarding the living lab process.

Hence, the major challenge to fostering participation from conflicting stakeholders is to convince them that this activity is separated from a particular interest. Therefore, to declare our neutrality, we managed to create a specific forum called "Forkopimda" referring to the coordination forum of local government leaders. The term "Forkopimda" is not new and has been known by local society as the neutral government forum established to manage cross-sector coordination.

Right after Forkopimda was established, the first meeting of participants successfully generated some agreements as the meeting output. First, it has successfully established a neutralized forum trusted by most of the members and participants of the forum. During the first meeting of the forum, we attempted to socialize the importance of data sharing, the implementation of technical guidelines aforementioned earlier, and

the settlement of problem-solving mechanisms by following legal principles either from agrarian and spatial planning affairs or from village government provisions.

Furthermore, the second agreement is that all Forkopimda members and participants sign their commitment to follow the collaborative mechanism, including technical processes and legal procedures. In this agreement, the member and participant of Forkopimda will promote the principle of participatory inventory of land tenure, ownership, usage, and utilization which is commonly recognized as the IP4T program.

As a result of the first meeting, the process to resolve the land conflicts is possibly discussed to find a viable alternative and concrete solution. The questionnaire's result which has been closely given to each meeting participant indicates that most of them are satisfied with the agreement and procedure of IP4T. However, only a small number of them expressed their dissatisfaction response due to lack of compensation for their participation.

4.3. Second round of living lab

In the second round of our living lab, we focused on conducting meetings and FGDs to resolve the conflict cases. In this case, the meetings and FGDs carrying IP4T agreement with the help of data sharing in the first place have proven their effectiveness, particularly within the case of SAV-2, PUV-3, KEV-4, JTV-5, and WBV-8. The principle of data sharing has successfully minimized the gap of information on each confronted side, for example during the case of PUV-3 where both sides have their own official documents of land border, this occasion the first and second attempts to resolve the conflicts resulted in rejection due to dissatisfaction from one party by certain decision even both have agreed the collaborative procedure and mechanism previously. However, when they reach the FGD section, their disposition is no longer similar as in the previous meetings.

On this occasion, many FGD participants are witnessing the portraits of aerial pictures indicating clear borders of conflicted land and with the presence of agrarian or spatial planning affairs agencies, which helps to explain the confusion due to different versions of documents. Meanwhile, in the case of WOV-1 and KEV-7, the process takes a longer period since they involve a larger scale of confronted society. One of Forkopimda's members argues:

"... Sometimes, people in certain parties need further consideration to join collective decisions, then it will become our responsibility to convince them by adding more witnesses. This is what happened in the case of Wonoayu village (WOV-1) and Kedungrejo village (KEV-7)..." (Mr. Dago, personal communication, June 7, 2022).

After several meetings and FGD, both of them were able to be solved with certain covenants that should be done by each side of the stakeholder.

5. DISCUSSION

Based on the analysis result carrying the findings and theoretical exposure, this paper generates some insights for CG and data collaborative implementation. In overall perspectives, this paper confirms the impact of all CG components proposed

by Bryson et al. (2015), but it pertains to different configurations for some aspects. Thus, the following discussion will elaborate on each specific adjustment to optimize the CG's effectiveness.

General background and condition: Most of GC's scholars have confirmed the strong correlation between CG's environmental support and its success rate such as Lober (1997) or Ruijer (2021). Some of them even argue that a substantial condition like institutional characteristic or legal dimension will be a determining factor for succeeding in the collaboration process. Yet, the findings of this research are working in line with the statement, but more importantly, we also found another fact in which the general antecedents are possibly changing during the CG's process.

Along with the living lab process, our observation reveals that some of the regulations for collaboration are considered too vague to cover any specific issues on the micro-scale. Therefore, we designed a specific new mechanism in the middle of CG's process intended to set up a supportive background sustaining holistic implementation. These new regulations and mechanisms have put pressure on an informal structure similar to the contingency and constraints principle as expressed by Bryson et al. (2006, 2015). However, rather than being a constraint principle from the early phase, it emerges in the middle process as a newly injected initiative from the current outcome. It closely resembles what Emerson et al. (2011) mentioned as the impact of the collaboration action which was possibly injected as feedback within the collaboration cycle.

Initial conditions and early drivers: The initial conditions and early drivers under the living lab process are primarily influenced by a consequential incentive for instance the current conflict problems and the need to find a win-win solution from each side. Furthermore, external factors such as the pressure from central government and local police officers have also provided two-dimensional options. First, they are raising the sense of crisis to manage the land conflict and second, they offer an opportunity for a fair process beyond the interference of any other parties. These kinds of drivers have successfully gathered and joined the interest of parties to collaborate as Emerson et al. (2011) and Ansell and Gash (2008) conveyed, but in fact, they are still facing some difficulties in facilitating the data sharing process under data collaborative mechanisms.

Collaborative processes: In our findings, the dimensions of the collaborative process are nested in three major discourses. First, this analysis peels the process of networking establishment by underlying communication mechanisms where trust building and shared understanding are shaped. During this inclusive process, we find the prehistory conflict and regretful experiences in the past as conveyed by Ansell and Gash (2008) have become primary challenges to shaping trust building. It takes some time for stakeholders to convince them about our neutrality. In this case, we find no significant interference of power imbalances as some scholars such as Berardo et al. (2014) and Arai et al. (2021) are mainly concerned. Therefore, the process of creating a unified vision is running smoothly.

Furthermore, the second discourse is valuing the communication networks by transforming them into an authoritative text as illustrated by

Koschmann et al. (2012). In this regard, the stakeholder attempts to build a legitimate framework based on numerous agreements achieved during the communication process that has been mentioned previously. The framework is then referred to as the IP4T program which promotes the principles of participatory inventory of land tenure, ownership, usage, and utilization for land management. Finally, the collaborative process is attempted to facilitate data sharing under a data collaborative mechanism. Under this circumstance, we highlight the importance of collaboration structures that provide a trajectory for each stakeholder and participant to manage their action for a unified purpose.

Collaboration structures: In a condition where the legal dimension seems too vague to cover micro-scale activities, the implementation of collaborative culture might be highly heterogeneous. The various collaborative participants are possibly to have multiple interpretations of the actor's dispositions and interests. In this research, the collaboration structures have proven their strategic role, especially by providing inclusive space for the different interests of all stakeholders. It performed as a mutual framework carrying the nature of tasks and various kinds of external demands (Provan & Kenis, 2008). Furthermore, it also becomes the backbone to administer the data collaborative circulation to all collaborative units as described in Susha et al. (2018).

Leadership: The leadership aspect in this research has proven its crucial role in accommodating almost all essential variables through precise decisions. It confirms nearly most of the theoretical argument of Agranoff and McGuire (2012) highlighting the leader's role to bring and carry public value from early to the end of the process. However, in our first attempt pressing strong leadership support to manage land conflicts resulted in several complaints. Some of the new participants even put a negative stigma on the current mechanism. Thus, by the periodic inquiry, we find that the leadership aspect is closely related to the social value that builds upon the successful experience of managing land conflict.

Indigenous conflicts and tensions: The notion of indigenous conflict and existing tension have become popular discourse under CG's implementation together with the emerging concept of Ansell and Gash (2008). It refers to the prehistory of conflict preceding the CG's process. It is underlined that the experience of conflicts may affect CG's process or even turn out to be inhibiting factors. However, some new conceptions such as Emerson et al. (2011), Arnkil et al. (2010), and Böhling (2019) have designed the GC's mechanism to accommodate conflict resolution in its notorious history. Thus, once the indigenous conflicts are identified under a collaborative scheme the mechanism will directly manage the situation before it proceeds to further steps. A similar scenario occurred in this research when some conflicted landowners suspected our collaboration was part of another party's interest and rejected our collaboration proposal for past experiences before we had successfully convinced them about our neutrality.

Accountabilities and outcomes: To ensure our justification regarding the enhancement process of CG's effectiveness, then it is important to validate the collaborative process by assessing all recorded

media and written documents including statistics results, data visualization, memorandum of understanding (MoU) of the IP4T program, and other legitimated agreement among involved actors. In this case, the four perspectives of collaboration categories as expressed by Bryson et al. (2015) are proven to become a prominent tool that comprises public value; immediate, intermediate, and long-term effects; resilience and reassessment; and accountability.

6. CONCLUSION

The implementation of collaborative mechanisms to manage social conflict is not a new phenomenon in the field of social sciences, particularly public administration, psychological science, or other relevant disciplines. The impact of collaboration might be varied ranging from effective contributions with significant collaborative outcomes to managing social conflicts or even less effective with conflict resolution's failure. This research aims to explore the best practice of CG to facilitate conflict resolution efforts within the case of land conflict management. It applies a living lab scenario to develop a more effective configuration of CG together with the role of data collaboration as part of conflict resolution efforts.

In this study, we found that the design of collaboration may determine the effectiveness of conflict resolution through a deliberative process. In the early stage of our research, we found that the existence of collaborative mechanisms has been considered insufficient to manage certain cases of land conflict problems with complex historical paths. Therefore, under the living lab chamber, we managed to alter several collaborative structures to increase the effectiveness of its process. In the first place, our attention is drawn to general background and existing conditions such as some regulations that are considered too vague to back up micro-scale activities. Therefore, we managed to inject new regulations in the middle of the process to sustain the collaborative drivers, and leadership aspect, and reduce the impact of indigenous conflicts. This process is intended to build a supportive institutional environment to perform a balanced data collaborative process.

However, the process of maintaining data collaborative governance is not as smooth as written on paper. Lack of trust and curiosity is still the main barrier to facilitating data sharing. Accordingly, our second concern is to change the collaborative agreement into a neutral forum that is recognized and trusted by conflicted actors. This effort has enabled the data-sharing process and developed the accountability of each decision. Once the data collaborative process is performed, the phase of conflict resolution can be delivered effectively until reaching the desired outcomes. In the end, the result of our living lab process has successfully generated an embryo of a new collaborative concept that has been proven to perform a more effective mechanism to manage land conflict. However, the effective performance of the new collaborative mechanism is only limited to the land use and ownership conflict without complex social tension. It needs for further research to examine this CG model for more complex conflicts such as horizontal or cultural conflict to explore a wider exposure of CG's feature under the living lab mechanism.

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APPENDIX

Table A.1. Summary of collaborative governance frameworks

<i>Variable assessment</i>	<i>Bryson et al. (2006)</i>	<i>Thomson and Perry (2006)</i>	<i>Provan and Kenis (2008)</i>	<i>Ansell and Gash (2008)</i>	<i>Emerson et al. (2011)</i>	<i>Agranoff and McGuire (2012)</i>	<i>Koschmann et al. (2012)</i>
Theoretical base	Diverse, organization theory, public administration, leadership, strategic management.	Diverse, organization theory, public organization, strategic management theory.	Network theory.	Diverse, organization theory, public administration, policy studies, planning, and environmental management studies.	Diverse, organization theory, public administration, conflict management theory, planning, and environmental studies.	Diverse, organization theory, public administration, strategic management theory.	Communication theory.
Main feature(s)	1) Initial conditions formal and informal process; 2) Formal and informal structures; 3) Contingency and constrain; 4) Outcome and accountability.	1) Antecedents; 2) Outcomes.	1) Ideal types of governance; 2) Critical contingencies; 3) Persistence tension; 4) Evolution of governance system over time.	1) Starting condition; 2) Collaborative process.	1) System context; 2) Collaborative governance regimes; 3) Collaboration dynamics; 4) Action; 5) Impacts; 6) Adaption.	Decision, and non-decision network.	1) Communication practices; 2) Developing of authoritative text; 3) Trajectory of authoritative text 4) Communication practices to assess over-all cross-sector partnership value.
Particular highlight(s)	Cross-sector collaboration, institutional logic, planning, contingencies, remedying power imbalances, alignment across components.	Learning, organizational autonomy, leadership, administration.	Governance structures.	Face-to-face dialogues, incentives, and remedying power imbalances.	Collaborative regimes, what makes CG works, capacity building.	Leadership roles, process, structures, public value, capacity building, and learning.	Authoritative texts and their effect on activities and partners.

Source: Bryson et al. (2006, 2015), Thomson and Perry (2006), Provan and Kenis (2008), Ansell and Gash (2008), Agranoff and McGuire (2012), Emerson et al. (2011), and Koschmann et al. (2012).