

Power Analysis in Penta Helix Practices in The Citarum Harum Programme

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Abstract

The Citarum has gone through various programmes from time to time. The first Citarum management program was launched in 1989 under the name of Kali Bersih Program (Prokasih) until Presidential Regulation No. 15/2018 on the Acceleration of Citarum River Watershed Pollution and Damage Control (PPK DAS) which was realised through the Citarum Harum Program. Currently, Citarum Harum is managed under the Pentahelix Concept Scheme that involves five main sectors, including academia, business, community, government, and media as actors who will collaborate in creating a holistic solution to the problem of Citarum River degradation. This research seeks to analyse the power relations formed from the interactions resulting from the implementation of Penta helix practices in the Citarum Harum programme. The aim is to see whether power is evenly dispersed across all Penta helix stakeholders or whether there is dominance and inequality of power relations in the Penta helix practice that has an impact on the optimisation of the Penta helix model in the Citarum Harum programme. This study uses a qualitative method by conducting interviews with the Penta helix pillars and is supported by documents on the implementation of the Citarum Harum programme. The results show that there is an imbalance of power relations between the pillars of the Penta helix. This occurs because the Penta helix is promoted as a concept that does not have a clear operationalisation of the roles and functions of each pillar. Therefore, the government as the leading sector once again dominates the process of program collaboration that has an impact on optimising the handling of the Citarum River.

Keywords: Power Relation, Penta helix, Citarum Harum

INTRODUCTION

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Citarum has gone through various programmes from time to time. The first Citarum management programme was launched in 1989 under the name Kali Bersih (Prokasih). Then in 1992, the Integrated Water Resource Management (IWRM) concept was adopted in Law No. 7/2004, which led to the creation of the Citarum Management Project with funding from the Asian Development Bank. The project, which was implemented in 2006, was led by Bappennas with the concept of the Integrated Citarum Water Resources Management and Investment Program (ICWRMIP) and Citarum Watershed Management and Biodiversity Conservation (CWMBC) under the Ministry of Environment and Forestry. The Citarum management programme continued with the Citarum Bestari Project initiated by the West Java Provincial Government in 2015.

The Citarum River is one of the national strategic rivers in Indonesia that not only holds various potentials but also various problems in it. As a national strategic river, the damage to the Citarum Watershed (DAS) is certainly a serious problem that has received special attention from President Joko Widodo. To tackle the problem, the government issued Presidential Regulation No. 15/2018 on the Acceleration of Citarum River Watershed Pollution and Damage Control (PPK DAS), which is realised through the Citarum Harum Program. The Citarum Harum team itself is divided into two, namely the steering committee and the task force, but overall, the programme involves various parties across sectors. The parties that play a role in the success of the Citarum Harum Programme then collaborated in the Penta helix scheme. The Penta helix concept itself is a scheme that involves five main sectors, including academia, business, community, government, and media as actors who will collaborate in creating a holistic solution to the problem of Citarum River degradation. This Penta helix scheme has been utilised in the tourism sector, which was later adopted as a collaboration scheme in the Citarum Harum Programme. Referring to the expert team of the Citarum Harum Task Force, Taufan Suranto, the use of the Penta helix scheme in this programme was first proposed by Lieutenant General TNI (Ret.) Dr. (H.C.) Doni Monardo was one of the initiators and executors of the programme.

Pentahelix is a new model developed as an advanced form of the Quadruple Helix model that has developed. Meanwhile, according to (Soemaryani, 2016) the Pentahelix model is a reference for developing collaboration between agencies to achieve a goal. Furthermore, (Rampersad, Quester, & Troshani, in Halibas, Sibyan, and Maat, 2017) said that the role of Pentahelix synergy has the goal of innovation that can participate in the social and economic growth of a region (Vani, Priscilla, & Adianto, 2020).

Initially, the form that developed was the Triple Helix involving academia, business and government. The concept of collaboration was adopted from Etzkowitz and 468



Leydesdorff's theory in 1995 which only limitedly emphasised the relationship between universities, businesses and government. Then in 2014, Lindberg added one more element, namely the community, which is mostly civil society organisations, so the name changed to Quadruple Helix. The addition of the community element was done to open a forum for input from the public's perspective through the community. The community also expanded the concept of innovation, which originally focused on the economy, to include creativity as an important element in creating knowledge and innovation.

It was only in 2018 that the concept of Pentahelix was proposed by Riyanto, involving the media, which plays an increasingly important role in this digital era. Pentahelix has become the most comprehensive model compared to previous models because it contains elements that are more representative of society such as communities and media to achieve innovation. The hope is that active collaboration between these parties can realise sustainable solutions and innovations to be applied to various issues, thanks to the extensive resource support from the five elements. This is because each element or pillar has a significant influence and role in its field, which if synergised can optimise a design. Meanwhile, according to (Soemaryani, 2016) the Pentahelix model is a reference for developing collaboration between agencies to achieve a goal. Furthermore, (Rampersad, Quester, & Troshani, in Halibas, Sibyan, and Maat, 2017) said that the role of Pentahelix synergy has the goal of innovation that can participate in the social and economic growth of a region.

Pentahelix contains five elements, namely academics, business holders (business), community, government, and media (ABCGM) to form a collaborative ecosystem based on creativity, knowledge development, technology, and innovation with the hope of being able to achieve solutions to the issues being discussed (Al Amin, 2020). More deeply, each pillar or element has its role, starting from academics who tend to act as concepts, business pillars or the business world as enablers who provide infrastructure and capital. Then the community pillar acts as an accelerator who becomes an active intermediary agent between public officials and the community to help realise the wishes of the community by facilitating the business process towards the expected changes. The government pillar acts more as a regulator and controller because it has great formal power through regulations and laws, the government in this Penta helix concept is also a coordinator who leads active collaboration with other pillars to encourage the acceleration of the realisation of changes expected by the community. The last is the media as an expender by publicising and branding the changes that are being processed so that the general public can follow the progress regularly to create a check and balance from the community and increase the guarantee that these changes can be realised without protracted obstacles (Raditya, 2021).

In the practice of the Penta helix, there are relationships between parties that contain power relations. Power relations are relations created between certain individuals who have interests accompanied by varying levels of power. In power relations, aspects of the strength of social relations can be found where individuals can influence the actions of

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other individuals. So it can be said that power relations can create a system or activity related to one's interests, even though it is against the interests of others. Power itself is defined by Michel Foucault as a dimension and relationship in which there is the essence of power. The issue of power relations is often the basis of every political process at every level from individuals to groups. Power relations can also be said to be the main staple in the political world. Power can also be considered as a strategy which is related to practical strategies in a field where various positions are interconnected with one another and often change. Power is manifested through an ongoing strategy, where the essence of power is increasingly felt as changes and differences occur, regulatory systems are formed, and social relations between individuals and between institutions.

Power relations can also be referred to as the concept of relations of power practices from subjects to objects through various containers that are obtained in ways that are not repressive but tend to be manipulative and hegemonic. Foucault again defines power as a concrete practice that shapes reality and behaviour, forming the realm of knowledge objects and unique rituals of truth. It can be concluded that power can also be interpreted as the capability attached to a person to influence others so that the actions of others become aligned with the will of the person who has power. Politically, power can be similarly defined as the capability to influence other individuals or groups, particularly those related to policy, by the goals of the power holder. Power holders need several things for their power to be manifested properly, namely the medium of power and legitimacy or the concept where the power they have is considered valid and recognised by other individuals according to applicable regulations. Other experts such as Harold D Lasswell and Abraham Kaplan interpret power as a relationship in which an individual or group of individuals can direct the actions of other individuals or groups according to the orientation or will of the first party (Yulianti, 2020).

Meanwhile, another definition defines power relations as the relationship between a group and other groups based on certain ideologies (Nugroho, Suharno, & Subroto, 2016). Power is a complex and abstract concept that affects people's lives in practical ways. Power can also be defined as the capability of public officials to oppose or support other people or institutions (Thomas, 2004: 10). Robert A. Dahl (1957: 201) considers power as a concept that describes the relationship between individuals shown through straightforward symbols.

Specifically related to the environment, we can use the analysis of power relations (Bryant, 1998) which has become the focus of environmental politics studies and methodologies (Escobar, 2006). This perspective is an aspect of the study that analyses the socio-political field of environmental empowerment with the underlying assumption that ecological transformations tend to be political in nature with parties having objectives in various domains. Power is embedded and again operated through various systems such as social relations where control over resources such as technology, capital, labour, and knowledge will determine the level of influence of power itself (Febryano, Suharjito, Darusman, Kusmana, & Hidayat, 2015).

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Research on Penta helix practices in the Citarum Harum Programme has been conducted several times before. Some of the studies focus on the implementation and formulation of public policies by the government related to the revitalisation of the Citarum River. The following are the results of previous studies that have a similar focus of study to this research on the practice of the Penta helix scheme in the Citarum Harum Programme. One of the previous research literature related to this study is a paper written by Engkus, Hesti Aprianti, Indri Mistilasari, Lintang Angesia, and Maula Fathan Hardianisa entitled "Penta Helix Perspective: The Pollution Control of the River Watershed (DAS) Citarum Indonesia". The research focuses on the roles and contributions made by each element in the Penta helix scheme using an ecological theory that looks at the role of public administration in ecological policy. The results showed that the effort to control pollution and damage to the Citarum River Watershed (PPK DAS Citarum) is a multisectoral responsibility with cooperation ranging from the preparation of plans to the implementation of actions. Therefore, to carry out the cooperation, each sector involved must play an active role in contributing, supported by budget availability and collaborative and integrated programme implementation.

METHOD

This research uses a qualitative case study approach to explore the Citarum Harum Programme in a Penta helix practice analysis. Data collection was conducted by collecting secondary data through Citarum Harum Programme report documents, statements of stakeholders involved in the programme through media coverage in both print and electronic media, and primary data taken from interviews and observations of the student internship team at the Citarum Task Force during October-December 2022 to each element of the penta helix.

RESULTS AND DISCUSSION

Penta helix Practice in Citarum Harum

The Citarum Harum programme carries its flagship concept and model, Pentahelix, which is a model of collaboration and synergy between five pillars or elements ranging from academics, business owners, communities, and government, to the media (Al Amin, 2020). Pentahelix is indeed a very suitable concept and idea to be implemented, but like a new concept that was first implemented, the Pentahelix model invited a lot of criticism because it was considered "flawed" when operating, which then made the Citarum Harum programme also criticised. After all, the output and changes produced were not significant based on the Pentahelix model implemented. Criticisms also came from several pillars of Pentahelix itself. Starting from academics who consider that Penta helix is a new concept that still needs to be developed (Endyana, 2022). In addition, the application of the Penta helix model is 'infiltrated' or integrated into the other four pillars so that the news and communication can run optimally (Endyana, 2022). Not only that, but the community



pillar also voiced its criticism by saying that the Penta helix concept still needs to be reoptimised where each party and element must uphold the same vision to integrate the actions taken. By holding the same vision, each element will play a role according to their respective expertise but in the end, all actions are well synchronised. To optimise the Penta helix, a reward and punishment system can also be implemented to encourage the consistency and enthusiasm of each pillar in realising the goals of the Citarum Harum programme. This is needed because the current Penta helix model is still too full of sectoral ego (Riswandani, 2022).

Criticism also comes from other communities such as Walhi West Java, which underlines that the performance of the pillars under the pentahelix model is not in line with the values it should have. Pentahelix is considered to have failed to build the right spirit and motivation for its pillars, where the spirit built is mostly not the spirit of protecting and restoring Citarum because the pillars' actions did not start long ago and have only recently become visible. This is because the emergence of the Citarum Harum programme, which has a budget, made the pillars 'called'. Therefore, their enthusiasm is still based on projects that have a budget. These parties can be referred to as "Citarum converts" since the Citarum Harum programme emerged (Paendong, Interview Walhi West Java, 2022). Criticism of the Penta helix model can also be seen through the inequality of influence and power held by the five elements in the model. For example, when a Penta helix meeting is held, some pillars are not included in practice, such as the media pillar is not invited to the meeting, when the media element plays a crucial role in synergising, integrating, disseminating information, educating, providing input from and to the community. So it is important that each pillar in the Penta helix, no matter how small the 'direct influence' or 'direct' power it has, is not underestimated. Pentahelix must be reformed so that in practice in the future it truly realises its basic value, namely active collaboration between the five pillars (Deha, 2021).

Collaboration or Running business as usual?

The many 'flaws' in the Penta helix model, which is the main model for implementing the Citarum Harum programme, also have implications for the output of the realised programme, resulting in a lack of targets and significant changes. As pointed out by Walhi West Java, after several years of operation and with only a short time left for the Task Force to end its term in 2025, no transition efforts have been seen. In addition, the Citarum Harum programme that has been implemented to date is considered not very progressive because there are still various major problems such as waste, where the way waste is handled is by burning it, which pollutes the air and environment again (Paendong, Interview Walhi West Java, 2022). In addition, the programme action of using coal waste as decoration for parks or to spruce up riverbanks is considered flawed because the processed waste still contains toxic substances that are harmful to human health, plus when the rain comes they will further dissolve these substances back into the Citarum river. Next is the issue of water quality, where the Citarum's water quality is still heavily polluted at various points, especially in tributaries that are less highlighted, so do not



focus on the main points only and must be comprehensive (upstream to downstream) (Paendong, Interview Walhi West Java, 2022).

In addition to the community, the results of the Citarum Harum programme were also criticised by the Supreme Audit Agency (BPK) due to the lack of domestic and industrial waste management containers, which hindered the reduction of water pollution levels (Anggraini, 2019). Water pollution control actions have not been accompanied by careful planning and integration with other interested agencies. Socialisation actions to all parties, especially the public and communities, have also not been optimal, which is exacerbated by the lack of supervision and a reward and punishment system. Similarly, the quality of human resources of the actors involved, such as the community and the government, is still low, resulting in a lack of awareness, initiative and commitment to the Citarum Harum programme. There is still a great need to formulate a plan to implement integrated control and empowerment with all stakeholders in the Citarum Harum programme. Moreover, community participation must be encouraged, which can be achieved by directly involving the community in the process of educative socialisation and empowerment. Another alternative option is to give more space to the role of communities and the media. Without the direct role of active communities, various actions such as the revitalisation of the Cikapundung River and the Citarum Harum program, which focuses on sub-watersheds and micro-watersheds, will not be progressive and will not produce significant changes due to the lack of proactive actors involved and the fact that many people are still unaware of the issues raised by the Citarum Harum program (Sjafari, 2022). Until now, unfortunately, the Citarum Harum programme with its new flagship model of Penta helix with its five pillars and resources has not been successful in changing the mindset and mentality of an advanced and environmentally conscious society, such as not dumping household waste into the river (Saputra, 2023).

It can be concluded specifically from the perspective of the community and civil society groups, that this government programme has not resulted in significant changes as a series of problems are still apparent to them, such as waste, sewage, and the destruction of riverbanks around the Citarum watershed. Community involvement is also demanded by them as until now, after years of the Citarum Harum programme, there is no space for community participation. Another issue that has not been addressed is the issue of industrial waste that continues to haunt the communities around the Citarum River. The government's claim regarding the change in the status of river water pollution to lightly polluted is also questionable because what the community feels is that the river water is still quite heavily polluted, especially in its tributaries which are often ignored (Zahra, 2022). The community also feels that the Citarum Harum program focuses too much on the river and forgets the critical land around the river that needs to be revitalised. Until now, most of the critical land around the river has not received any real countermeasure programme. The programme to increase community participation with a fee scheme is also considered to mislead the mindset of the community to care for the environment proactively. Not to forget, up to now trillions of rupiah have been poured



into the Citarum River, but the results on the ground are not comparable (Palau, 2022).

A Challenge to Leveraging the Penta Helix Model in The Citarum Harum Programme

It is interesting to analyse which elements in the penta helix have more dominant power than others. The findings in the field show that the ABCGM elements in the citarum harum penta helix tend not to have strong enough power in the programme. However, among the five elements, the government or government as the leading sector has more power than the other elements. However, it is interesting to observe that in the Citarum Harum programme, each element in the penta helix is not more powerful than the TNI, which is assigned by the Presidential Regulation as the executor of the Citarum Harum task. TNI is also the budget holder for the programme, which is funded by BBWS Citarum. It can be said that, even though the power analysis between the elements in the penta helix is mapped out, it does not necessarily mean that the potential for collaboration can be optimised because there is another element outside the penta helix, namely the TNI, which has greater power and control over the Citarum Harum programme.

Various criticisms that have emerged during the implementation of the penta-helix programme in dealing with Citarum are inevitable. These criticisms emerged in response to the unclear practice of the penta-helix model in the Citarum Harum programme. The use of the penta-helix model is nothing more than "conceptualised latitude" or even FOMO (fear of missing out) from the trend of using the penta-helix concept in Indonesia. It is as if embedding the term penta helix gives the impression that the programme is more sophisticated and advanced in its handling. This is none other than one of the characteristics of governments that often follow governance trends. In the previous decade, the term collaborative governance became a trend and was used by many government agencies to label their programs. Therefore, there is no ideal governance model to be implemented until the end of the programme and evaluated comprehensively.

In the case of the Citarum Harum programme, penta-helix is a necessity to solve a complex and ambitious problem. This is because getting all stakeholders to be in the same power relation is very difficult to realise. Each element in the penta-helix has its main tasks and functions according to its legal basis before being "asked" to cooperate in the Citarum Harum programme. As a result, each element prioritises its priority agenda over collaborating to complete the Citarum Harum programme within the penta-helix scheme.

In dealing with sectoral ego, it is necessary to ensure a legal rule that is valid and binding for each element of the penta-helix. This is because the legal regulation of Progra Citarum Harum presented in the Presidential Regulation does not bind each element to work well together. The legal umbrella needed cannot be made only at the provincial level as the executor of the Citarum Harum task force, because many elements are not under the governor but at the ministerial level, such as the Citarum River Basin Authority under the Ministry of PUPR. So it is very possible to have unequal power relations. This means that there needs to be a clearer and more detailed derivative law in addition to Presidential Regulation No. 8/2018 on the Citarum Harum Programme.

The clarity of legal rules will provide certainty about leadership between elements that work together in the Penta helix scheme. Because although each of these elements has its role and function, a leading sector is needed that can become a mediator and facilitator who is agreed upon and respected by all elements. This is important to make the penta-helix model work more effectively. So power relations that tend to be unequal due to vertical differences in structure can be overcome by legal certainty and clear leadership certainty.



Another point is that meaningful collaboration requires planned and programmed meetings among the penta-helix elements as a whole by a leading sector that is trusted by all elements. At the empirical level, the practice of meetings exists to coordinate the activities of each element involved in the Citarum Harum programme, but coordination meetings end up on the minutes table and there is rarely any substantive follow-up to resolve problems. Even if there is a critical issue, each stakeholder usually resolves it through their respective tasks and functions.

In addition, the cooperation between the elements in the penta helix must be better managed to produce meaningful collaboration so that the objectives of the citarum harum programme can be achieved. One important element to creating meaningful collaboration is sharing budgeting. Tying each element involved to a shared budget for the success of the programme allows each element to be more responsible for the roles that can be optimised for the success of the programme. So far in the course of the Citarum Harum programme, one of the obstacles to collaboration has been the lack of a budget to work with. Again, the output is the interest in completing the affairs of their respective stakeholders.

This shows that the implementation of penta-helix involving many elements and stakeholders is not an easy matter. The collaborative process requires the willingness of each element to be able to network and make alignments and adjustments so that each element can get out of the "traditional boundaries" namely "mission, resources, capacity, responsibility, and accountability" (Kettl, 2006). This challenge cannot be solved in one programme period, it requires a strong will from all elements to work together to optimise the penta-helix model so that it can produce definite and stable governance for all elements in the penta-helix.

CONCLUSION

The penta-helix practice in the Citarum Harum programme has a dynamic power relation within it. The five elements, namely academics, business, cooperate, government and media, are not in a balanced power relation but are dominated by the government as the leading sector. This is one of the obstacles to why the penta helix model is not able to accelerate the success of the citarum harum programme. The weakness that needs to be highlighted is the role of each element that focuses on its own core business so that there is no sense of full responsibility for the programme. Business as usual by each element of the penta-helix is an excess of the absence of clear regulations on how the parties involved should coordinate and collaborate. In addition, outside the five elements of the penta-helix itself, namely the TNI. The TNI has further and deeper budgetary and programme implementation power than each of the penta-helix elements involved. Therefore, the dynamics of power relations in the Citarum Harum programme do not only need to look at and map the power in each element of the penta-helix but also another more significant element, namely the TNI.

A clear regulation is needed between each stakeholder involved in the citarum harum programme, where the penta-helix should not simply be positioned as a stakeholder involved in efforts to restore the condition of the citarum watershed. For complex public issues such as watershed governance, a penta-helix type of collaboration model is not entirely adequate. A more in-depth actor analysis is needed to determine the potential roles that can be offered as a solution to the effectiveness of the citarum harum programme.

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REFERENCES

- [1] Al Amin, R. P. (2020). *Sinergi Pentahelix Dalam Peningkatan Inovasi Startup Digital Kota Cimahi*. Bandung: Universitas Komputer Indonesia.
- [2] Anggraini, R. G. (2019, Februari 18). BPK Kritik Program Citarum Harum Belum Efektif. Retrieved from katadata.co.id: https://katadata.co.id/hariwidowati/berita/5e9a552375109/bpk-kritik-programcitarum-harum-belum-efektif
- [3] Deha. (2021, Agustus 25). Diskusi "Pentahelix" Disporapar Menuai Kritikan. Retrieved from kamangkaranews.com: https://www.kamangkaranews.com/2021/08/diskusi-pentahelix-disporaparmenuai.html
- [4] Endyana, C. (2022, November 28). Wawancara Pilar Akademisi Pentahelix. (A. K. David, M. K. Syukri, & K. A. Achadiat, Interviewers)
- [5] Endyana, C. (2022, November 28). Wawancara Pilar Akademisi Pentahelix. (A. K. David, Interviewer)
- [6] Kettl, D. F. (2006). Managing boundaries in American administration: The collaboration imperative. In *Public Administration Review* (Vol. 66, Issue SUPPL. 1). https://doi.org/10.1111/j.1540-6210.2006.00662.x
- [7] Paendong, M. W. (2022, Desember 16). Wawancara Walhi Jawa Barat. (A. K. David, M. K. Syukri, & K. A. Achadiat, Interviewers)
- [8] Paendong, M. W. (2022, Desember 16). Wawancara Walhi Jawa Barat. (A. K. David, M. K. Syukri, & K. A. Achadiat, Interviewers)
- [9] Paendong, M. W. (2022, Desember 16). Wawancara Walhi Jawa Barat. (A. K. David, M. K. Syukri, & K. A. Achadiat, Interviewers)
- Palau, E. L. (2022, Mei 24). Kembalikan Sungai Citarum ke Tangan Rakyat.
 Retrieved from BandungBergerak.id: https://bandungbergerak.id/article/detail/2592/kembalikan-sungai-citarum-ke-tangan-rakyat
- [11] Riswandani, D. (2022, Desember 9). Wawancara Pilar Komunitas Pentahelix. (A. K. David, Interviewer)
- [12] Saputra, Y. (2023, Maret 26). Lima tahun Citarum Harum: Sungai penting yang masih jadi 'kakus raksasa' karena limbah tinja. Retrieved from BBC NEWS INDONESIA: https://www.bbc.com/indonesia/articles/cye4prp60150
- [13] Sjafari, I. (2022, Juni 30). https://koridor.co.id/berita/ini-kritik-atas-programcitarum-harum-yang-dinilai-tidak-menyentuh-problem-utama/. Retrieved from koridor.co.id: https://koridor.co.id/berita/ini-kritik-atas-program-citarum-harumyang-dinilai-tidak-menyentuh-problem-utama/
- [14] Al Amin, R. P. (2020). Sinergi Pentahelix Dalam Peningkatan Inovasi Startup

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Digital Kota Cimahi. Bandung: Universitas Komputer Indonesia.

- [15] Febryano, I. G., Suharjito, D., Darusman, D., Kusmana, C., & Hidayat, A. (2015).
 125 AKTOR DAN RELASI KEKUASAAN DALAM PENGELOLAAN MANGROVE DI KABUPATEN PESAWARAN, PROVINSI LAMPUNG, INDONESIA. Jurnal Analisis Kebijakan Kehutanan, 123-138.
- [16] Hafidah. (2020). GERAKAN SOSIAL BARU DAN POLITIK LINGKUNGAN: STUDI TENTANG PERUBAHAN STATUS HUTAN LINDUNG MENJADI KAWASAN WISATA DI KECAMATAN TANETE RIATTANG TIMUR KABUPATEN BONE. Makassar: Universitas Hasanuddin.
- [17] Nugroho, A., Suharno, & Subroto, T. (2016). Pengertian Relasi Kuasa. In A. Nugoroho, Suharno, & T. Subroto, *Relasi Kuasa dalam Strategi Pertanahan di Desa Prigelan* (pp. 1-7). Sleman: STPN Press.
- [18] Raditya, D. (2021, September 1). *Penta-Helix dan Perubahan Sosial*. Retrieved from FISIPOL UGM CREATIVE HUB: https://chub.fisipol.ugm.ac.id/2021/09/01/penta-helix-dan-perubahan-sosial/
- [19] Vani, R. V., Priscilia, S. O., & Adianto. (2020). Model Pentahelix Dalam Mengembangkan Potensi Wisata di Kota Pekanbaru. *Publikauma*, 63-70.
- [20] Wahyudin, E. A. (2018). GERAKAN SOSIAL BARU DAN POLITIK LINGKUNGAN (Studi Atas Kontribusi WALHI Terhadap Ruang Terbuka Hijau di DKI Jakarta 2004-2017). Jakarta: Universitas Islam Negeri Syarif Hidayatullah Jakarta.
- [21] *What is Power Analysis?* (n.d.). Retrieved from TIBCO: https://www.tibco.com/reference-center/what-is-power-analysis
- [22] Yulianti, F. (2020). *Relasi Kuasa Antar Aktor dalam Manajemen Aset Daerah*. Tasikmalaya: Universitas Siliwangi.
- [23] Zahra, A. N. (2022, Desember 20). Anak Sungai Citarum Ikut Menjadi Sungai Terkotor di Dunia: Siapa Bertanggung Jawab? Retrieved from BandungBergerak.id: https://bandungbergerak.id/article/detail/14814/anak-sungaicitarum-ikut-menjadi-sungai-terkotor-di-dunia-siapa-bertanggung-jawab