Policy innovation on environment and forestry development for supporting gender equality in Indonesia

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Abstract. This article discusses how policy innovation was developed for supporting gender equality in the environment and forestry development. The study focuses on how the design thinking-based policy innovation process is carried out and how social infrastructure for policy innovation is built to seek the transformation of understanding from gender-neutral to gender nature. The data were collected through focus group discussions, documentation studies, and in-depth interviews. The data were qualitatively analyzed with inductive thematic analysis method with Needs and Aspirations for a Design and Innovation process (NADI) framework and social infrastructure theory. The results show that policy innovations in environmental and forestry development based on design thinking were carried out through gender-responsive policy innovations that regulate forests to be sustainably managed for the welfare of women, men, and people with disabilities. Moreover, there were also innovative activities called GLEADS (Gender Leader Summit) and TEACH (Training for Eco-gender Activating Champions Hub) embodying National-regional Eco-forestry Hubs, which cooperated to develop innovations to improve gender equality. Multi-actor aspirations and situations in the innovation intervention process lead to a reframing of the innovation policy design process. This impacted the reframing of social infrastructure and changes in intervention treatment according to the management level.

1. Introduction
Tropical forests with their biodiversity in Indonesia play an important role in maintaining the balance of the global ecosystem. As renewable natural resources, forests need to be managed sustainably so that forest ecosystems with a variety of functions can be maintained [1]. The occurrence of forest damage (Deforestation) in Indonesia (in 2018-2019 reaching an area of 462,458 ha), requires a change in the orientation of the forest management managerial system by top-level management by creating policy innovations that can involve the active participation of the entire community. This is done because one of the causes of deforestation is human activity. Policy innovations that consider the dimensions of gender justice are needed so that women who were previously discriminated against in forest management can play a role in maintaining the balance of the global ecosystem [2,3].

Policy innovation is related to the process of making new policies, regulations, programs, or services that can significantly improve policy outcomes [4]. In the context of environmental and forestry development, policy outcomes can take the form of reducing deforestation so that forests can become a
source of livelihood and community welfare. Gender and deforestation have an interrelated relationship with each other. On the one hand, deforestation harms women, including women getting further away from sources of livelihood in the forest, so that women are increasingly burdened and have an impact on their health and girls tend to be pulled out of school to share the workload with housewives who are elderly [5–7]. On the other hand, women tend to contribute more to the deforestation process [3]; but at the same time, women’s representation in parliament can support the implementation of pro-environment policies to reduce deforestation rates [8].

In addition to considering the gender aspect in making innovations in the environment and forestry sector, it is also necessary to choose the right innovation-making approach to achieve the predetermined goals. One such approach is design thinking [9], where the application of a design thinking approach with environmental dimensions is very useful for studying sustainable development issues, especially in socio-economic aspects [10].

In the public sector, the design thinking approach is introduced as a human-centered approach and an experimentation approach to creating public value that is useful as a tool for developing policy design and public service design [11]. The design approach is used to understand policy issues that focus on multi-actor and situated approaches that make tangible policies. In addition, this approach can help close the gap between the policies made and the policies needed [12, 13]. Based on the view of human-centered design (HCD), innovation is not only limited to products and services but also about how to create the right organization or system to disseminate solutions and innovations that have been made [14].

This article discusses how policy innovation was developed for supporting gender equality in the environment and forestry development. Specifically, the analysis focuses on the design thinking-based policy innovation process that emphasizes human-centered design (HCD) and analyzes the social infrastructure of policy innovations in seeking the transformation of a gender-neutral understanding into a gendered nature. The NADI (Needs and Aspirations for a Design and Innovation process) model developed by van der Bijl-Brouwer and Dorst [15] is used to analyze the policy innovation process in environmental and forestry development. This model consists of four layers of human needs and aspirations in human-centered design, namely solutions, scenarios, goals, and themes. Solutions are the first layer that describes questions about what people need or want. Furthermore, the scenario is the second layer that deals with how people interact with each other to reach a solution. Goals and themes are the third and fourth layers dealing with why people need solutions and scenarios. The difference between the two is that goals focus on what goals people want to achieve, while themes focus on the latent needs and aspirations of these people outside the context of innovation.

2. Materials and methods
The research was conducted within the scope of the Ministry of Environment and Forestry of the Republic of Indonesia. The data were collected through focus group discussions, documentation studies, and in-depth interviews with deliberately selected informants. The informants of this research are actors involved in the GLEADS and TEACH innovation process consisting of members of the gender mainstreaming working group, GLEADS and TEACH participants who were selected randomly. The data were qualitatively analyzed by inductive thematic analysis method with the Needs and Aspirations for a Design and Innovation process (NADI) framework. Thematic analysis is used to analyze the innovation practices and design rationality that have been made to find the underlying themes that emerged among the participants of the GLEADS and TEACH programs. While the NADI framework is used to describe the process of design thinking innovation in realizing the transformation from gender-neutral to gender nature.

The case study design was chosen to explore in-depth from various perspectives on the uniqueness of a policy [16], in this case, GLEADS and TEACH. Data validity uses source triangulation, which is to confirm the answer to a question using various available sources, for example, FGD results with documentation study results or in-depth interviews with FGD results and documentation studies and vice versa.
3. Results and discussion

This article discusses how policy innovation was developed for supporting gender equality in the environment and forestry development. The study focuses on how the design thinking-based policy innovation process is carried out, as well as how the social infrastructure for policy innovation is built to seek the transformation of understanding from gender-neutral to gender nature.

3.1. Policy innovation

Policy innovations in environmental and forestry development based on design thinking are carried out through gender-responsive policy innovations that regulate forests to be managed sustainably for the welfare of women, men, and people with disabilities. Moreover, there were also innovative activities called GLEADS (Gender Leader Summit) and TEACH (Training for Eco-gender Activating Champions Hub) embodying the National-regional Eco-forestry Hub, where each Hub cooperated to develop innovations for improving gender equality.

GLEADS and TEACH are innovation programs of the Ministry of Environment and Forestry designed to transform from “Gender Neutral” to “Nature Gender” in all ministry activities. GLEADS and TEACH were conducted for five months from June to October 2021 with 10 meetings. The ministry aims to build big conversations between GLEADS TEACH and inspiration from practitioners, experts, and several ministers to reinforce understanding related to the substance of the material related to gender (social inclusion, equity, leadership, global economics, natural assets, climate change, culture, social development, disabilities, and youth and children rights) as well as the skills needed as a leader or gender champion (Figure 1). GLEADS and TEACH are implemented in a participatory HCD-based manner so that participants can apply their abilities and skills in their field of work.

3.2. Design thinking-based policy innovation process

Design thinking in the policy innovation process is carried out based on a human-centered design that includes 4 (four) layers of innovation, namely solutions, scenarios, goals, and themes [14]. Based on the documentation study, it was found that the solution to be achieved in realizing gender equality in the environment and forestry sector is to build a big conversation. The scenarios for forming the big conversation are divided into two, namely GLEADS (forming a high-level conversation room at 40 mid-level management i.e., echelon II officials), and TEACH (forming a conversation room at the staff level i.e., 1000 people who are prepared as gender champions). The media used in building the conversation process were YouTube and zoom meetings, which were facilitated by facilitators and accompanied by inspiration. Both classes are equipped with assignments with different focuses between classes. Assignments to GLEADS class participants were given in the form of Pecha Kucha presentations, making short videos, and making podcasts. Meanwhile, the assignment for the TEACH class is in the form of making posters about transnational leadership. The main theme designed is the internalization
of gender-fair values. While the goals of this innovation are the transformation of gender-neutral to gender nature.

After conducting a Focus Group Discussion with GLEADS and TEACH participants, there was a reframing of the previously designed policy innovation process. The reframing is in the GLEADS class, for example, it was found that the solution from gender-neutral transformation to gender nature was the need for agile and adaptive leaders to gender issues. The scenario designed is to improve the ability of each leader to think ahead, think again, and think across. Thinking ahead is the ability to dream far ahead in realizing gender equality through the opening of equal access, participation, control and benefits between women and men. Thinking again is the ability to see the factors that hinder and support the creation of gender equality in organizations in the past. Thinking across is the leader's ability to become a learner by looking at the great experiences of other people or organizations as the basis for adapting to change and innovation. The goals to be achieved are the creation of leaders who are aware of gender issues and can demonstrate empowering and encouraging skills (hard skills), empathy and equality (soft skills), esthetics and e-learning (art and science) within the organization. The underlying theme that emerges is gender-responsive transformative leadership, namely gender-responsive leadership that does not only focus on making gender-based programs or policies, but also equipping women and men with the tools to change the mindset of society in a manner to achieve gender equity at all levels [17].

Meanwhile, in the TEACH class, it was found that the process of transforming understanding from gender-neutral to gender nature requires a solution in the form of creating an innovative gender-based organization. The scenario proposed to realize the solution is the development of innovations in the form of designing gender-based programs and budgets as well as establishing a social communication space to discuss gender issues. The goals to be achieved are the strong support and commitment of organizational leaders regarding the concept of gender and the understanding of every party in the organization about the concept of gender. The concepts of ‘leadership’, ‘organizational commitment’ and ‘gender-awareness in organization’ are the themes that appear in the goals, but after a literature study of these three concepts the researchers found an underlying theme known as ‘gender-responsive organizational culture’. The shift in the design thinking-based policy innovation process is depicted in table 1.

| NADI Elements | Before Intervention GLEADS | TEACH | GLEADS | After Intervention TEACH |
|---------------|--------------------------|-------|--------|-------------------------|
| Solutions     | Gendered big conversation at mid-level management | Gendered big conversation at the staff level | Creating an agile and adaptive leader | Creating innovative organizations based on gender equality values |
| Scenarios     | Discussion and assignment of 40 mid-level management | Learning and assignment of 1000 civil servants and non-civil servants’ ministries | Sharpening the abilities in Thinking Ahead, Thinking Again, and Thinking Across 40 mid-level management skills | Introducing gender-based organizational innovations. |
| Goals         | Transforming neutral gender to natural gender | Transforming neutral gender to natural gender | Creating gendered-aware and hard skills leaders (Empowerment and encouragement), soft skills (empathy and equality), art and science (esthetic and e-learning) | Creating a space for social communication to discuss gender issues in the organization |
| Themes        | Internalized gender equality | Internalized gender equality | Gender-responsive transformative leadership | Gender-responsive transformative organizational culture |

The shift in the design thinking-based innovation process based on the NADI Model generates arguments for the development of policy innovations that are tailored to the management level. At mid-level management, the argument can be built that ‘If the organization has gendered-aware leaders and has hard skills (empowerment and encouragement), soft skills (empathy and equality), art and science (esthetic and e-learning) it will create gender ‘Responsive Transformative Leadership’. Furthermore, ‘If
Gender-Responsive Transformative Leadership has been developed, then adaptive and agile leaders can be realized. Meanwhile, at the implementing level, an argument can be made that 'if the organization has leadership and a strong commitment to gender, a gender-responsive organizational culture will be built organizations to develop innovations in support of gender equity.'

3.3. Designing for organizational social infrastructure

Social infrastructure is part of the organizational infrastructure in the innovation process that supports everyone in the organization to think creatively and sustainably and support each other [14]. This infrastructure is realized if there is a clear structure and innovation process. The step that must be taken in building social infrastructure is to determine the people who are in the organization.

Based on the results of the interview, it was found that the initial design of the social infrastructure structure was to separate the leadership and staff of the ministry in the process of achieving the goal of gender-neutral transformation to gender nature. Mid-level management is grouped in the GLEADS class and ministry staff is grouped in the TEACH class (see Figures 2 and 3). The focus of the two classes is to form a conversation sphere through discussion classes, but we have not thought about the interrelationships between GLEADS and TEACH members.

After going through the discussion process in each class, there was an aspiration to reframe the initial design. The reframing includes, firstly, establishing and connecting a hub between mid-level management at GLEADS and ministry staff at TEACH. Second, changing the intervention treatment to GLEADS and TEACH. Treatment of GLEADS is focused on developing gender-responsive transformative leadership skills. While the treatment of TEACH is more focused on the formation of an organizational culture that opens space for members of the organization to develop innovative gender-responsive activities (see Figures 2 and 3).

4. Conclusion

In this study, we have discussed policy innovations that can support gender-responsive environmental and forestry development. Using the NADI Framework [15] and Social Infrastructure [14] we find that to support the development of a gender-responsive environment and forestry, policy innovation is required. The case studies on the GLEADS and TEACH programs developed by the Ministry of Environment and Forestry show that multi-actor aspirations and situations encountered in the innovation intervention process lead to a reframing of the policy innovation design process. This process reframing has implications for the social infrastructure reframing of the different innovation processes between mid-level management and staff. In addition, it is necessary to change the intervention treatment according to the management level. Treatment of mid-level management is focused on developing gender-responsive transformative leadership skills. Meanwhile, the treatment of staff is more focused on the formation of an organizational culture that opens space for members to develop innovative gender-responsive activities. This study provides an insight that Design Thinking approaches in policy innovation contribute to the transformation of gender-neutral policies, programs, and activities into nature gender.
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