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Promotion and capacity-building: toponymic training and education

Fostering synergy between universities and government agencies for effective geographical names standardization

Submitted by Indonesia **

Summary:

Government Regulation No. 2 of 2021 designates Indonesia's Geospatial Information Agency (BIG) the responsibility of coordinating efforts to standardize geographical names in collaboration with various stakeholders, including academic institutions. In the past years, BIG has partnered with universities offering programs in geodesy, surveying, geography, and geographical information science on initiatives such as capacity-building, research, and discussions on collaborative frameworks. However, challenges remain, including the limited integration of toponymy into university curricula, insufficient toponymic expertise, and the lack of well-structured collaboration models.

The paper highlights the importance of fostering synergy between universities and government agencies to overcome existing geographical name standardization challenges. By implementing the proposed strategies, Indonesia will be able to strengthen its geospatial information management and contribute to broader global efforts in geographical names standardization.

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Fostering synergy between universities and government agencies for effective geographical names standardization

1. Introduction

Geographical names are fundamental components of geospatial information, serving as essential references for navigation, administration, cultural heritage preservation, and disaster management. Standardization of geographical names ensures consistency in spatial data management, supports effective governance, and enhances international recognition. In Indonesia, the responsibility for coordinating geographical names standardization is assigned to the Geospatial Information Agency (*Badan Informasi Geospasial* - BIG), as mandated by Government Regulation No. 2 of 2021, Article 6. BIG collaborates with ministries, local governments, and other stakeholders, including academic institutions, to carry out this mandate.

The involvement of universities and academic experts is crucial in advancing geographical names standardization. Universities provide research expertise, technical knowledge, and innovative approaches that can contribute to a more effective and sustainable standardization process. However, despite existing collaborations between BIG and academic institutions, several challenges remain. These include limited integration of toponymy into university curricula, a shortage of toponymic expertise, and the absence of structured collaboration models that effectively involve academic institutions in governmental policy implementation.

The integration of toponymy into higher education is essential to address the challenges of geographical names standardization. The United Nations Group of Experts on Geographical Names (UNGEGN), through Resolution IV/5, recommends that each country should aim at providing training in cartographic toponymy at the university or corresponding academic level. However, in Indonesia, toponymy remains underrepresented in academic curricula, even within geodesy, geography, linguistics, and geospatial science programs. Additionally, the number of professionals specializing in toponymy is still limited, posing a challenge to sustainable standardization efforts.

Universities play a vital role in research, capacity building, and public awareness related to geographical names. Strengthening their involvement in toponymy through formal education, research collaboration, and field-based studies will contribute to preserving and revitalizing local cultural heritage while ensuring accurate and consistent geographical naming practices.

This paper aims to explore the importance of fostering synergy between government agencies and academic institutions in addressing challenges related to geographical names standardization in Indonesia. The study focuses on:

a. Identifying existing gaps in university-government collaboration on toponymy.
b. Examining challenges in integrating toponymy into academic programs.
c. Proposing strategies to enhance academic-government partnerships for geographical names standardization.

By implementing the proposed strategies, Indonesia is expected to strengthen its geographical names standardization, improve the accuracy and consistency of geographical names, and contribute to broader global efforts in geographical names standardization.

2. Methodology

This paper investigates the collaboration between the Geospatial Information Agency (BIG) and universities from 2018 to 2024 on geographical names initiatives. An initial analysis of these partnerships indicated that while some universities acknowledge the importance of toponymic studies, awareness levels vary across institutions. To gain a more detailed and current perspective, a structured questionnaire was developed and implemented.

The questionnaire aimed to assess university staff perceptions on toponymy integration into curricula, the availability of toponymic expertise, and university-government collaboration. The questionnaire was distributed to faculty members, department heads, and academic coordinators from universities that collaborated with BIG during this period. The questionnaire focused on gathering qualitative insights to understand the challenges in strengthening academic-government engagement and to explore perspectives on enhancing toponymic studies within academic programs.

The study involved respondents from universities offering programs in geodesy, geography, geospatial science, and linguistics. Participating institutions included Universitas Gadjah Mada (UGM), Institut Teknologi Bandung (ITB), Universitas Indonesia (UI), Institut Teknologi Nasional (ITENAS), Institut Teknologi Sepuluh Nopember (ITS), and Universitas Pendidikan Indonesia (UPI).

3. Collaboration Between BIG and Universities

3.1. Existing Collaboration Between BIG and Universities

Since 2018, BIG has collaborated with academic institutions in various initiatives to support the standardization of geographical names. These initiatives include educational programs such as workshops, outreach activities, and training on geographical names standardization. In addition, universities have been involved in toponymic surveys and research projects focusing on geospatial science and toponymy.

Table 1. Collaboration Between BIG and Universities in 2018-2024

No.	Year	University	Faculty/Study Program	Activities
1	2018	Universitas Gadjah Mada (UGM)	Faculty of Geography	Workshop
2	2020	● Institut Teknologi Bandung (ITB) ● Institut Teknologi Nasional (ITENAS) ● Universitas Pakuan (UNPAK)	● Undergraduate Program in Geodesy and Geomatics - ITB ● Undergraduate Program in Geodetic Engineering - ITENAS ● Study Program of Geodetic Engineering - UNPAK	Collaborative Toponym Survey
3	2022	Institut Teknologi Bandung (ITB)	Undergraduate Program in Geodesy and Geomatics	Outreach and Training
4	2022	Institut Teknologi Nasional (ITENAS) Bandung	Undergraduate Program in Geodetic Engineering	Outreach and Training
5	2023	Universitas Pendidikan Indonesia (UPI)	Diploma Program in Mapping Survey and Geographic Information	Outreach and Training
6	2023	Universitas Gajah Mada (UGM)	Department of Geodetic Engineering	Outreach and Training
7	2023	Institut Teknologi Sepuluh Nopember (ITS)	Department of Geomatics Engineering	Outreach and Training
8	2024	Universitas Diponegoro	Department of Geomatics	Outreach and Training

		(UNDIP)	Engineering	

The workshop, held on August 9-10, 2018, was titled "Toponymy Workshop: Citizen Science for Toponym Collection". The event aimed to educate and promote collaboration in the field of toponymy by introducing fundamental concepts, exploring technological advancements, and highlighting community-based approaches for toponym collection. Participants included representatives from local governments, academics, and practitioners. In 2020, BIG in collaboration with students from ITB, ITENAS, and UNPAK, conducted field data collection for the new capital city in East Kalimantan, covering North Penajam Paser Regency, Kutai Kartanegara Regency, and the surrounding areas.

The outreach activities were commonly paired with the training. These initiatives aimed to raise awareness of geographical names, as well as disseminate the principle, procedure, and policy based on the legal framework of Government Regulation No. 2 of 2021. The materials mainly discussed about the following topics:

a. Dissemination of Government Regulation No. 2 of 2021 on Standardization of Geographical Names;
b. Collection of geographical names;
c. Field data collection using the mobile app of the Indonesian Geographical Names Information System;
d. Geographical names data processing, data analysis, and data conversion;
e. Verification process of geographical names; and
f. Geographical naming process.

The outreach and training activities engaged a total of 365 participants, including 100 from ITB and ITENAS, 70 from UGM, 50 from ITS, 95 from UPI, and 50 from UNDIP.

Figure 1. BIG-led Outreach and Training Programs for University Engagement in Toponymy

3.2. Understanding the State of Toponymy in Academia

On February 18, 2025, the questionnaire was distributed among university staff to assess the current state of toponymy in academic curricula, expertise, and collaboration with governmental institutions. The survey aims to identify both the challenges hindering the integration of toponymy into higher education and the opportunities for fostering academic and institutional support for its development.

One of the key areas of focus is the **limited integration of toponymy in university curricula**. The questionnaire examines whether universities currently offer courses on toponymy, the academic disciplines in which it is included, and the reasons for its restricted presence in higher education. Furthermore, it seeks to determine the level of interest among universities in incorporating toponymy into their programs, provided that sufficient resources and institutional support are available.

Another critical issue addressed is the **insufficient toponymic expertise in academic programs**. The survey assesses the number of faculty members specializing in toponymy, the extent of existing research projects in this field, and the primary challenges universities face in developing expertise. Additionally, it explores universities' willingness to participate in capacity-building initiatives, such as training sessions and workshops, to enhance toponymic knowledge among both faculty and students.

The final section of the questionnaire highlights the **lack of structured university-government collaboration** in toponymy. It investigates previous and potential cooperative efforts between universities and government agencies, including joint research initiatives, contributions to policy-making, and opportunities for student internships or fieldwork programs. Moreover, the questionnaire identifies barriers to effective collaboration, such as bureaucratic hurdles and funding constraints, while also gathering insights on how the government can better support universities in advancing toponymic studies and institutional partnerships.

4. Results and Discussion

4.1. Integration of Toponymy in University Curricula

The study found that four university departments, UI (Department of Geography), ITS (Department of Geomatics Engineering), UGM (Department of Geographic Information Science), and UPI (Study Program of Mapping Survey and Geographic Information), include toponymy as a core subject, while another three departments, including ITB (Study Program of Geodesy and Geomatics), UI (Department of Linguistics), and ITENAS (Study Program of Geodetic Engineering), incorporate it as part of a broader course. This suggests that while toponymy is present in some academic programs, it is often not given standalone recognition, limiting its development as a specialized field of study.

Toponymy is currently included within multiple academic disciplines, including Geodesy, Geography, History, Linguistics, Urban Planning, Mapping Survey, Geographic Information, Cartography, and Remote Sensing. This interdisciplinary presence highlights its relevance across various fields, yet its integration remains inconsistent across institutions.

Regarding the inclusion of toponymy in academic disciplines, here are several key findings:

a. Toponymy is primarily embedded within geography, geomatics, and mapping-related programs. Universities such as UI (Department of Geography), ITS, UGM, ITENAS, and UPI integrate toponymy within their geography, geomatics, and mapping-related courses. This suggests that toponymy is mostly recognized as a component of spatial sciences, where it is applied in GIS, mapping, and geographical names collection methodologies.

b. Linguistic and cultural aspects of toponymy are acknowledged, with UI's Department of Linguistics integrating it into language and cultural studies.

c. There is variation in the depth of toponymy coverage across institutions.
   - Some universities, such as UI (Department of Geography), UGM, ITS, and UPI, offer a more comprehensive approach to toponymy, covering theoretical foundations, policy frameworks, research methodologies, and applications in GIS and mapping.
   - Others, such as ITB and ITENAS, emphasize technical aspects like data collection and GIS applications, with less focus on policy, cultural, or historical perspectives.

d. The lack of standalone toponymy programs suggests it is treated as a sub-discipline rather than an independent field. Since toponymy is embedded within existing disciplines rather than being a dedicated program, it implies that it is often seen as a supporting subject rather than a primary field of study. This could limit specialized research and professional development in toponymy.

When asked about the primary reasons for the limited integration of toponymy in university curricula, respondents from ITENAS, UI, ITS, and UPI cited a lack of academic expertise in the field. Additionally, ITENAS and UGM attributed it to limited student interest or demand, while the Department of Geography at UI pointed to insufficient government or institutional support.

Other contributing factors included the predominant focus on data collection and the practical use of geographical names in teaching, as well as the lack of outreach on the importance and strategic value of geographical names. Moreover, toponymic studies are often embedded within broader courses, such as thematic mapping, GIS, and cadastre, rather than being offered as standalone subjects. Elements of geographical name collection are already covered in these courses, as well as in research and mapping methodology, which may reduce the perceived need for separate toponymy courses.

Despite these challenges, there is significant interest in expanding toponymy education. Respondents from UGM, ITB, ITENAS, ITS, UPI, and UI (Department of Geography) indicated that universities would likely be willing to incorporate toponymy as a formal part of the curriculum. Additionally, a respondent from UI (Department of Linguistics) highlighted that the level of interest would largely depend on the availability of such support, emphasizing that sufficient expertise in toponymy is crucial for its advancement in education.

4.2. Availability of Toponymic Expertise

The study indicates that most universities have a limited number of faculty members specializing in toponymy or related fields. UGM, ITS, UPI, ITENAS, and UI (Department of Geography), reported having only 1-2 faculty members specializing in the field. The UI (Department of Linguistics) has a slightly higher number, with 3-5 specialists, while ITB stands out with more than five specialists in toponymy.

Most universities, including UGM, UI, ITS, ITENAS, and UPI, consider their current number of specialized faculty members inadequate. ITB is the only institution that believes its faculty specialization in toponymy is sufficient.

Universities face several challenges in developing expertise in toponymy. A common issue reported by UGM, ITENAS, UPI, and UI (Department of Geography), is the lack of trained lecturers or researchers in toponymy. Limited funding for research was highlighted by UGM, ITS, ITENAS, and UI (Department of Linguistics). Additionally, UGM, ITS, and ITENAS noted that student interest in toponymy remains low. ITB pointed out the lack of collaboration with the government, particularly in developing methodologies and solving problems related to geographical names standardization, as a significant barrier.

Some universities have participated in government-led capacity-building programs, such as outreach, training, and workshops, to enhance toponymic expertise. UGM, ITB, and UI (Department of Geography) have engaged in these programs for both faculty and students. UPI, ITENAS, and ITS have participated in programs aimed specifically at students. However, UI (Department of Linguistics) has never joined such programs.

The responses indicate that universities show interest in participating in future capacity-building programs, such as outreach, training, and workshops, to further develop expertise in toponymy.

This interest suggests a potential opportunity for institutions to collaborate with government agencies and other stakeholders to strengthen toponymic education and research.

4.3. University-Government Collaboration Models

Collaboration between universities and the government in toponymy varies across institutions. ITENAS engages in regular collaboration, participating in projects one to two times per year. UGM, ITB, UI, and UPI collaborate occasionally, while ITS has yet to establish a partnership but has expressed interest in doing so.

Different types of collaboration have been conducted by universities in toponymy-related activities. ITENAS has contributed to geographical names data collection, while UI (Department of Geography) has participated in field surveys, joint research projects, and the International Conference on Sea Names in collaboration with the Society for East Sea of Korea, UI's Department of Linguistics, and BIG. UGM and ITB have engaged in joint research, while UPI has collaborated with the Provincial Government of West Java on the implementation and utilization of the Indonesian Geographical Names Information System (SINAR).

Universities are open to expanding their collaboration with the government in various ways. All institutions expressed interest in joint research projects. ITENAS, UI (Department of Geography), ITS, UGM, and ITB are interested in developing toponymic databases, while UI (Department of Geography), UGM, and ITB are open to providing policy advisory roles. Additionally, all universities indicated interest in student internships or fieldwork programs in toponymy-related projects.

Several barriers hinder effective collaboration between universities and the government. A common issue reported by ITENAS, UI (Department of Geography), ITS, UGM, and ITB is the lack of clear communication channels between academic institutions and government agencies. Bureaucratic challenges in establishing partnerships were highlighted by ITENAS, ITS, and UPI. Funding constraints were identified as a significant barrier by all institutions. Additionally, UI's Department of Geography noted the lack of toponymic expertise in local governments, while ITB emphasized that Indonesia's toponymy system requires comprehensive improvements beyond current regulations and should be aligned more closely with the Sustainable Development Goals (SDGs).

5. Strategies to Enhance University-Government Synergy

To enhance the role of toponymy in academia and practice, both universities and government institutions must work together to strengthen collaboration and foster synergy. The following suggestions outline key measures for its development.

a. Strengthen Toponymy in University Curricula
   Universities should establish standalone courses or modules on toponymy and promote interdisciplinary collaboration with geography, linguistics, and urban planning. Incorporating GIS applications and policy analysis can enhance student engagement.

b. Enhance Academic Expertise and Research
   Investing in faculty development through research grants and collaboration is crucial. Universities and government agencies should organize workshops and training to build expertise in toponymy.

c. Improve University-Government Collaboration

Providing research grants for toponymy studies, establishing formal partnership programs, organizing conferences or networking events, and developing policy frameworks for collaboration can enhance practical engagement in toponymic studies. Additionally, the improvements to Indonesia's toponymy system should incorporate input from all relevant stakeholders to ensure a comprehensive approach.

d. Raise Public and Student Awareness
Outreach programs and student-led projects should be promoted to highlight the importance of toponymy in spatial planning and cultural preservation.

e. Develop a National Framework
A structured national framework should be established to integrate toponymy into academic programs, standardized curricula, and align studies with national policies on sustainability and cultural heritage.

6. Conclusion

BIG has collaborated with universities to advance geographical name standardization through workshops, outreach, and training, guided by Government Regulation No. 2 of 2021. These initiatives have strengthened expertise in toponymy and geospatial science, engaging students, academics, and local stakeholders. However, in some institutions, toponymy remains a sub-discipline rather than a standalone field, with varying levels of integration across institutions. Limited faculty expertise, low student interest, and insufficient institutional support hinder its broader adoption in university curricula.

Despite these challenges, universities show strong interest in capacity-building initiatives to enhance toponymic education. However, collaboration with the government remains inconsistent, hindered by unclear communication, bureaucratic obstacles, and funding constraints. Strengthening government support through research grants, formal partnerships, and improved regulatory frameworks could enhance toponymic initiatives and foster more effective university-government synergy.

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