UNGEGN / UN-GGIM Collaborative Project on Shared Good Practices Between National Mapping Agencies and National Names Authorities

Draft Report

Background Document to E/C.20/2025/17/Add.1 "Standardization of geographical names and collaboration with the United Nations Group of Experts on Geographical Names"

Submitted by Indonesia and the United States of America

Executive Summary

This report presents a comprehensive evaluation of survey responses concerning the intricate relationships and operational practices between National Mapping Agencies[1] (NMAs) and National Names Authorities (NNAs) worldwide. The analysis, grounded in the United Nations Integrated Geospatial Information Framework (UN-IGIF), reveals a complex landscape characterized by significant structural diversity among NNAs, contrasting with the more uniform structure of NMAs. While many countries have established formal legal frameworks for collaboration, financial constraints and a lack of prioritization for geographical naming activities remain pervasive challenges, often leading to underfunded NNAs and fragmented collaborative efforts. A critical observation is the varied maturity of Indigenous group engagement, ranging from incidental involvement to formalized co-stewardship models, highlighting a key area for good practice dissemination.

In-depth analysis confirms that initial observations regarding organizational complexity and persistent challenges are indeed accurate and reveals deeper systemic issues. The inherent heterogeneity of NNA structures complicates global standardization efforts, necessitating flexible, adaptable international guidance. The complete absence of NMA and NNA relationships in some countries represents a critical geospatial governance gap, leading to inefficiencies and data inconsistencies. Furthermore, while organizational integration can mitigate specific collaboration funding issues, it does not resolve overall budgetary shortfalls if geographical naming lacks strategic recognition. The analysis underscores that effective collaboration is contingent not only on legal frameworks but also on their consistent implementation, sustained political will, and the clear articulation of the strategic value of geographical names. Thus, this report is structured into three primary sections: 1. Recommendations; 2. Analysis and Good Practices Aligned by each UN-IGIF Strategic Pathway; and, Conclusions and Next Steps.

The collaborative project welcomes the continued support of UN-GGIM in advancing its work and welcomes contributions to the forthcoming “Compendium on Effective Institutional Arrangements and Operational Practices”. This will highlight successful models of collaboration between NMAs and NNAs and provide a set of recommendations. The recommendations are organized according to the 9 strategic pathways of the IGIF to facilitate incorporation into existing strategic initiatives and are essential for achieving integrated and efficient national geospatial information management. The recommendations, along with documented good practices, will form the foundation of the Compendium. A global consultation process will ensure alignment with the work programmes of both the UN-GGIM and the Group of Experts. The finalized Compendium will be presented for adoption at the sixteenth session of UN-GGIM and submitted for endorsement by the Group of Experts in 2027.

[1] In this present draft, the term “National Mapping Agency” is meant as an all-encompassing term for institutions responsible for national geospatial information management, including ‘National Geospatial Information Agency’, Cadastre, or Land Registry.

Introduction

The collaborative project between the United Nations Group of Experts on Geographical Names (UNGEGN) and the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM) was initiated to address persistent challenges in national geospatial information management. This initiative, formally supported by UN-GGIM Decision 12/114 and UNGEGN Decision 3/2023/9, aims to mitigate issues such as duplicated efforts, inconsistent data, and inefficient resource utilization that often arise from fragmented operations between national mapping agencies (NMAs) and national names authorities (NNAs). Even when these entities theoretically operate within the same organizational umbrella, their actual interaction may be limited, leading to suboptimal outcomes. The overarching goal of this project is to enhance collaboration and identify good practices that can inform and guide Member States in refining the coordination and efficiency of their organizations.

This report undertakes a comprehensive, evidence-based evaluation of the collected survey data. The primary purpose is to ascertain whether a more profound examination of the raw responses and the project's foundational documents uncovers new insights, nuances, or contradictions that necessitate a revision or enhancement of any preliminary conclusions or recommendations. The questionnaire design and analysis are systematically structured around the nine strategic pathways of the United Nations Integrated Geospatial Information Framework (UN-IGIF) – governance, policy and legal, financial, data, innovation, standards, partnerships, capacity and education, and community and engagement. This framework provides a robust lens through which to investigate the collaboration and organization of NMAs and NNAs, considering national circumstances, priorities, and perspectives.

The preliminary analysis presented herein is based on 73 detailed responses received from 62 Member States. The survey instrument itself was meticulously refined through a beta-testing phase involving 17 Member States, ensuring its ability to capture the intricate and diverse organizational structures and operational practices of NMAs and NNAs. This rich and varied dataset provides a robust foundation for understanding the current state of NMA and NNA relationships and practices worldwide. Further analysis has already indicated significant complexity and diversity in organizational structures, alongside persistent challenges such as insufficient awareness of the importance of geographical names, budget constraints, and a lack of prioritization for geographical names standardization. This report aims to delve deeper into these initial observations, performing a second and third-order analysis to uncover underlying trends, causal relationships, and broader implications that may not be immediately apparent from surface-level data. The objective is to provide a comprehensive, authoritative assessment that goes beyond preliminary observations to inform strategic decisions and future collaborative initiatives within the global geospatial and naming communities.

Recommendations

Governance and Institutions

- **Recommendation 1.1:** Member States are encouraged to **establish or reinforce formal legal instruments, policies, or Memoranda of Understanding (MoUs)** that explicitly define the roles, responsibilities, and collaborative obligations of NMAs and NNAs. These instruments should mandate data sharing protocols, joint decision-making processes for naming discrepancies, and mechanisms for coordinated strategic planning.
- **Recommendation 1.2:** Implement **joint NMA and NNA steering committees or working groups** at both strategic and operational levels. These bodies should meet regularly to ensure alignment of work plans, facilitate information exchange, and collectively address emerging challenges and opportunities.
- **Recommendation 1.3: Prioritize support for countries currently lacking any formal NMA and NNA relationship**. Offer tailored technical assistance, workshops, and peer-to-peer learning opportunities focused on establishing basic communication channels, defining initial roles and responsibilities, and demonstrating the immediate benefits of rudimentary collaboration.

Policy and Legal

- **Recommendation 2.1: Promote the development and continuous review** of modern, enforceable legal frameworks for NMA and NNA collaboration and data governance. Provide guidance on drafting legislation that supports data availability, accessibility, exchange, and management, while also incorporating mechanisms for periodic review and adaptation to technological advancements and evolving national needs. Emphasize the importance of clear enforcement mechanisms to ensure compliance.
- **Recommendation 2.2: Develop and disseminate best practices** for meaningful and equitable engagement with Indigenous groups in geographical naming and mapping. Encourage the adoption of principles like OCAP (Ownership, Control, Access, Possession) where applicable, advocating for Indigenous advisory roles, co-creation of naming policies, and respecting Indigenous data sovereignty. Support initiatives that integrate Indigenous languages and traditional knowledge into national gazetteers and mapping products.

Financial

- **Recommendation 3.1:** Advocate for the **allocation of dedicated, sustainable funding** for NMA and NMA/NNA collaborative projects within national budgets. This funding should cover joint operational costs, technology investments, and capacity-building initiatives.
- **Recommendation 3.2:** Explore and secure **diverse funding sources** for collaborative efforts, including national government appropriations, international development grants,

and public-private partnerships.

- **Recommendation 3.3:** International bodies (UNGEGN, UN-GGIM) and Member States should actively advocate for the elevation of geographical naming as a distinct, strategic national function. Develop and disseminate compelling cost-benefit analyses and case studies that quantify the economic, social, and cultural value of standardized geographical names and integrated NMA and NNA operations.

Data

- **Recommendation 4.1:** Prioritize the **development and adoption of common national data models and exchange formats** for geographical names and geospatial features. This includes ensuring that gazetteer data structures are compatible with geospatial databases.
- **Recommendation 4.2:** Establish **joint data quality assurance frameworks** that encompass both spatial accuracy and toponymic consistency. This should include automated validation tools where feasible and clear protocols for the reconciliation of discrepancies between mapping products and official names registers.
- **Recommendation 4.3:** Encourage **national authorities to engage more actively with private sector mapping providers** to ensure consistency of maps and geographical names data, potentially through data sharing agreements, licensing, or regulatory mandates.

Innovation

- **Recommendation 5.1:** Foster **joint research and development initiatives** between NMAs and NNAs to explore innovative technologies (AI for name extraction/validation, crowdsourcing for data collection) that can enhance efficiency and accuracy in both mapping and naming processes.
- **Recommendation 5.2:** Encourage the **co-development and adoption of shared technological platforms** (integrated gazetteer and web mapping services) to streamline workflows and improve data dissemination.

Standards

- **Recommendation 6.1:** Ensure the **consistent application of national and international geographical naming standards** (UNGEGN resolutions, ISO standards) across all NMA and NNA operations, including their integration into metadata standards for geospatial datasets.
- **Recommendation 6.2: Address the challenges in implementing and adhering to standards** by providing targeted training, developing user-friendly guidelines, and fostering a culture of commitment to standardization.

Partnerships

- **Recommendation 7.1:** Promote **mutual representation** on key advisory boards or decision-making bodies of both NMAs and NNAs to foster a shared understanding of mandates and priorities.
- **Recommendation 7.2:** Encourage the development and formalization of Public-Private Partnership (PPP) frameworks for geospatial and geographical naming activities, with clear guidelines on data governance, security, and intellectual property.

Capacity and Education

- **Recommendation 8.1:** Implement **joint capacity-building programs and workshops** that address the interdisciplinary needs of NMA and NNA personnel. Training should cover topics such as geospatial data management, toponymic principles, legal frameworks for naming, and stakeholder engagement.
- **Recommendation 8.2:** Facilitate **personnel exchanges or secondments** between NMAs and NNAs to foster cross-agency understanding and build shared expertise.

Partnerships

- **Recommendation 9.1:** Develop and implement **integrated public consultation platforms** for geographical names that are jointly managed by NMAs and NNAs. These platforms should leverage web-based technologies to enhance accessibility and transparency.
- **Recommendation 9.2:** Strengthen public consultation and feedback mechanisms for both mapping and naming activities. Encourage the use of user-friendly web portals, social media, and crowd-sourcing platforms for public input. Develop methodologies for measuring the *impact* of public engagement on data quality and policy outcomes, moving beyond simple metrics to ensure that public contributions meaningfully enhance national geospatial information.

Analysis and Good Practices Aligned by each UN-IGIF Strategic Pathway

Strategic Pathway 1: Governance and Institutions

Analysis of NNA and NMA Structures

The survey data reveals a highly heterogeneous landscape for National Names Authorities. The most prevalent structures identified are "Central Names Office," reported by 10 countries including Colombia, Ecuador, Germany, Indonesia, Mauritania, Norway, Republic of Moldova, South Africa, Sweden, and Uganda. An equally common structure is the "National Names Committee (board, council, commission, etc.)" and reported by 13 countries (Burundi, Cuba, Croatia, Cyprus, Hungary, New Zealand, Papua New Guinea, United States of America, Saudi Arabia, Slovakia, Slovenia, Sri Lanka, and Sudan). This indicates a dual approach to centralized naming functions, either through a dedicated office or a collaborative advisory body.

A smaller, but significant, proportion of countries integrate the NNA directly "Part of National Mapping Agency" (Oman) or operate with a "Decentralized Names Authority" (Argentina, Austria, Canada, and Latvia). Critically, some respondents explicitly state "No National Names Authority" (Albania, Nigeria, Belgium, Cameroon, Senegal, Mexico, Togo, Nigeria, the Netherlands, Philippines, Singapore, Uruguay, Chile, El Salvador, United Kingdom, Italy, Switzerland, and Finland) or indicate that the NNA is "Currently being reconstituted" (Morocco), or that "No office in charge of geographical names" exists (El Salvador). Viet Nam uniquely indicates that geographical naming is a task within their Department of Survey, Mapping and Geo-Information.

In stark contrast to the diversity of NNA structures, National Mapping Agencies exhibit a remarkable degree of structural uniformity. The "Central Mapping Office" is the overwhelmingly dominant structure, reported by almost all responding countries. Minor deviations include "Decentralized Mapping Authority" (Australia, Canada, Oman, Slovenia, and Sudan) or a "Decentralized autonomous cartographic agency of the federal government" (Mexico). This structural consistency in NMAs suggests a more globally standardized approach to national mapping functions.

Table 1: Summary of NNA and NMA Institutional Structures

Structure Types	Count	Countries
Central Names Office	10	Colombia, Ecuador, Germany, Indonesia, Mauritania, Norway, Republic of Moldova, South Africa, Sweden, Uganda
National Names Committee (board, council, commission)	13	Burundi, Cuba, Croatia, Cyprus, Hungary, New Zealand, Papua New Guinea, United States of America, Saudi Arabia, Slovakia, Slovenia, Sri Lanka, Sudan
Decentralized Names Authority	4	Argentina, Austria, Canada, and Latvia

No National Names Authority	18	Albania, Nigeria, Cameroon, Senegal, Mexico, Togo, Nigeria, Belgium, the Netherlands, Philippines, Singapore, Uruguay, Chile, El Salvador, United Kingdom, Italy, Switzerland, Finland
Currently being reconstituted	1	Morocco
NNA Structure's Part of National Mapping Agency	1	Oman
No office in charge of geographical names	1	El Salvador
Geographical names is a task of the Dept. Survey	1	Viet Nam
Central Mapping Office	46	Albania, Austria, Argentina, Burundi, Bulgaria, Belgium, Cameroon, Chile, Cyprus, Colombia, Timor-Leste, Iceland, Trinidad and Tobago, Senegal, Slovenia, Togo, the Netherlands, Japan, Poland, Philippines, Singapore, Papua New Guinea, Lao People's Democratic Republic, El Salvador, United Kingdom, Italy, Nigeria, Switzerland, Finland, Uganda, Latvia, Norway, Sweden, United States of America, Mauritania, Viet Nam, South Africa, Slovakia, Saudi Arabia, Hungary, Republic of Moldova, Ecuador, Croatia, Sri Lanka, New Zealand, Indonesia.
National Mapping Committee (board, council, commission)	3	Burundi, Cuba, Uruguay
Decentralized Mapping Authority	5	Australia, Canada, Oman, Slovenia, Sudan
Decentralized autonomous cartographic agency	1	Mexico

Analysis of NMA and NNA Relationship Levels

The level of relationship between NMAs and NNAs varies significantly, ranging from direct legal arrangements to no formal relationship.

- **Political (National level collaboration based on legal arrangements):** This represents the most formal and legally mandated level of integration, reported by 10 countries. These include Sweden, Iceland, Croatia, Chile, Cuba, Dominican Republic, Germany, Latvia, Slovenia, and Uruguay.
- **Executive (Collaboration among different institutions):** This level denotes active cooperation driven by executive directives between distinct institutions. It is reported by 14 countries, such as Argentina, Austria, Bulgaria, Burundi, Chile, Cyprus, Nigeria, Norway, Papua New Guinea, Poland, Slovenia, South Africa, Togo, Trinidad and Tobago.
- **Managerial (Inter-departmental collaboration within the institution):** This implies collaboration occurring within the same overarching organizational entity, typically between different departments or units. It is reported by 15 countries, including Albania, Brazil, Czechia, El Salvador, Hungary, Indonesia, Lao People's Democratic Republic,

Mexico, New Zealand, Oman, Slovakia, Saudi Arabia, Uganda, and Viet Nam.

- **Technical (Collaboration without any legal framework):** This level signifies technical cooperation without a formal legal mandate. It is reported by 15 countries: Austria, Belgium, Burundi, Colombia, Ecuador, Japan, Philippines, the Netherlands, Mauritania, Nigeria, Papua New Guinea, Sri Lanka, Togo, Ukraine, and Timor-Leste.
- **No Relationship:** A concerning finding is that some countries explicitly report "No Relationship" (Japan, Senegal, Republic of Moldova) or indicate that their NNA and NMA committees are "currently being reconstituted" (Morocco).
- **Integrated/Same Organization:** Norway (Kartverket), Singapore (Singapore Land Authority), and Armenia (The Cadastre Committee) explicitly state that both mapping and geographical naming activities are included within one organization. The Russian Federation's Rosreestr also functions as both NNA and NMA, implying a fully integrated relationship.

Table 2: Distribution of NMA and NNA Relationship Levels

Relationship Levels	Count	Countries
Political (National level collaboration based on legal arrangements)	10	Sweden, Iceland, Croatia, Chile, Dominican Republic, Germany, Latvia, Slovenia, and Uruguay
Executive (Collaboration among different institutions)	14	Argentina, Austria, Bulgaria, Nigeria, Norway, Papua New Guinea, Poland, Slovenia, South Africa, Togo, and Trinidad and Tobago.
Managerial (Inter-departmental collaboration within the institution)	14	Albania, Brazil, Czechia, El Salvador, Hungary, Indonesia, Lao People's Democratic Republic, Mexico, New Zealand, Oman, Slovakia, Saudi Arabia, Uganda, United States of America, and Viet Nam.
Technical (Collaboration without any legal framework)	15	Austria, Belgium, Burundi, Colombia, Ecuador, Japan, Philippines, the Netherlands, Mauritania, Nigeria, Papua New Guinea, Sri Lanka, Togo, Ukraine, and Timor-Leste.
No Relationship	3	Japan, Senegal, Republic of Moldova.
The same organization	4	Norway (Kartverket), Armenia (the Cadastre Committee), Russian Federation (Rosreestr), Singapore (Singapore Land Authority)
Program Managers within the NNA, work with Program Managers within the NMA to plan activities.	1	United States of America
There is a relationship between all governmental departments works	1	Sudan

in mappings		
Other (At a state and territory level it is 'managerial' between mapping and naming activities. And 'technical' at the federal level.)	1	Australia

Key Observations and Implications for Governance

The detailed analysis of institutional structures and relationship dynamics reveals several critical patterns. The first pertains to the inherent structural disparity between NNAs and NMAs. While NMAs are almost uniformly structured as "Central Mapping Offices," NNAs exhibit a wide spectrum of organizational models, including central offices, committees, integrated departments, or decentralized authorities. This fundamental structural difference is not merely an observation but a critical factor that profoundly complicates efforts to establish standardized global best practices for NNA functions and their integration with mapping activities. It suggests that NNA models are often more deeply embedded in unique national, cultural, historical, or political contexts than NMA models. Consequently, international recommendations for NNA establishment and collaboration must be highly flexible and adaptable, moving away from a "one-size-fits-all" approach to accommodate diverse national circumstances. This also implies that the challenges faced by NNAs, particularly in terms of funding and recognition, may be intrinsically linked to their varied and often less institutionalized structures.

A second significant finding is the explicit reporting of "No Relationship" between NMA and NNA functions by a subset of countries, including Japan, Senegal, and Republic of Moldova, with Morocco also indicating a state of reconstitution for its committees. This is not merely a lack of formal collaboration but a fundamental absence of interaction between two intrinsically linked national functions. This complete absence points to a severe governance gap in geospatial information management. Such a void almost certainly leads to pervasive data inconsistencies, substantial duplication of effort, and potentially hinders critical national functions such as disaster management, infrastructure planning, and cultural heritage preservation. These countries represent primary targets for foundational capacity building, awareness-raising efforts, and the promotion of basic collaborative frameworks by international bodies like UNGEGN and UN-GGIM, as they are likely missing out on the benefits of "avoiding duplication of resources and work effort" and "increased efficiency" observed by others.

A third notable pattern concerns the impact of organizational integration on funding challenges. Countries where the NNA is "Part of NMA" or where both functions reside within "The same organization" (Oman, Brazil, Norway, Armenia, Russian Federation) predominantly report "Managerial" or "Political" relationship levels. These integrated entities often state that "Both fund their own activities" or "Funding comes from the lead mapping or naming agencies" for collaborations. While some, like Slovakia and Mexico, report "no financial challenges", others within this integrated group still face "Insufficient funding" or "Government's limited budget"

(Oman, Lao People's Democratic Republic, Indonesia). This pattern suggests that organizational integration is effective in mitigating the specific challenge of "no funds dedicated for collaborations", as collaborative efforts become part of the core institutional budget. However, it does not inherently resolve overall budgetary constraints if the combined entity itself is underfunded or if geographical naming activities are internally perceived as "non-core" or "relegated to second place" (Togo). The challenge shifts from securing *collaboration-specific* funds to ensuring *adequate overall institutional funding* for geographical naming. This implies that political prioritization and a clear articulation of the *strategic value* of geographical names (a challenge noted by Ecuador) are more critical for financial sustainability than mere structural integration.

Good Practices in Governance and Institutional Arrangements:

- **Formalized Policy and Legal Frameworks:** Countries demonstrating the most effective collaboration often possess explicit policies or legal arrangements that mandate and guide the interaction between NMAs and NNAs. These frameworks typically define responsibilities for data collection, maintenance, exchange, and the resolution of naming discrepancies. This provides a clear institutional basis for sustained cooperation, mitigating the risk of "duplicated efforts" and "inconsistent data".
- **Joint Inter-agency Working Groups:** The establishment of joint inter-agency working groups or committees with regular meetings and defined terms of reference enhances information sharing, proactive problem-solving, and the alignment of strategic objectives.
- **Integrated Organizational Structures:** Countries where NMA and NNA functions are integrated within the same organization often report streamlined workflows and a common understanding of processes (Norway's Kartverket, Armenia's Cadastre Committee, Russian Federation's Rosreestr).
- **Mutual Representation:** Promoting mutual representation on key advisory boards or decision-making bodies of both NMAs and NNAs fosters a shared understanding of mandates and priorities.

Strategic Pathway 2: Policy and Legal

<u>Analysis of Existing Policies and Legislation Supporting Collaboration</u>

A substantial majority of responding countries report having policies or legislation that directly support NMA and NNA collaboration. Examples of these frameworks include specific acts, such as Cyprus's Law 71(I)/2013, Nigeria's Survey Coordination Act 1962, Norway's Place Name Act of 1991, the Philippines' Republic Act No. 7160 Local Government Code of 1991, and Canada's Department of Natural Resources Act, 1994. Some countries rely on internal regulations (Czechia) or broader technical specifications and frameworks (Colombia). These indicate a global recognition of the importance of formalizing these interactions.

Some countries indicate that support for collaboration is indirect, embedded within broader legal mandates. This is observed in Timor-Leste, Ukraine, South Africa, Saudi Arabia, and Indonesia. Conversely, a notable number of countries explicitly state the absence of such policies, including

Austria, Argentina, Chile, Australia, Belgium, Japan, Singapore, Trinidad and Tobago, Uruguay, Italy, Albania, Cameroon, Papua New Guinea, Oman, Hungary, the Netherlands, Sri Lanka, El Salvador, and Brazil. This absence can lead to fragmented efforts and inconsistencies.

Analysis of Legal Support for Data Availability, Accessibility, Exchange, Application, and Management

The overwhelming majority of countries with established policies or legislation confirm that these frameworks actively support the availability, accessibility, exchange, application, or management of geographical names or mapping data. Specific details provided by respondents highlight legal requirements for publicly accessible gazetteers (Cyprus, New Zealand), robust open data policies (Slovenia, United States of America, Iceland, Poland), and established protocols for inter-agency information exchange (Colombia, Czechia). This demonstrates a widespread understanding of the need for legal backing to ensure data utility and dissemination. However, countries without direct collaboration policies also generally report no specific legal support for these data management aspects, indicating a direct correlation between the presence of formal frameworks and effective data governance.

Analysis of Involvement of Indigenous Groups in Policy and Legal Contexts

The survey reveals a varied landscape regarding the involvement of Indigenous groups in mapping and geographical naming efforts. Many countries acknowledge the presence of Indigenous groups, including Chile, Burundi, Austria, Viet Nam, Mexico, Japan, Argentina, Chile, El Salvador, Brazil, Cyprus, Nigeria, Colombia, Czechia, Papua New Guinea, Uganda, Sudan, Timor-Leste, Latvia, Slovenia, Norway, Sweden, Ukraine, South Africa, United States of America, Germany, Trinidad and Tobago, Australia, Togo, Philippines, Ecuador, Sri Lanka, Russian Federation, Lao People’s Democratic Republic, Canada, United Kingdom, Finland, New Zealand, and Indonesia. A significant subset of these countries also report having specific policies or guidelines for engaging with these groups.

The nature and frequency of engagement vary considerably. This ranges from "incidental only" involvement in data collection (Nigeria, Colombia, Papua New Guinea, Uganda, Sudan, Latvia, Slovenia, Germany, Togo, Lao People’s Democratic Republic, Canada, Indonesia) to more structured and frequent interactions like "permanent" (Czechia) or "quarterly" formal consultations (Norway, United States of America, New Zealand, Canada). Engagement methods include public consultation for new legislation, interdepartmental cooperation (Cyprus), direct submission of names by Indigenous groups (Nigeria), extensive field data collection involving community interviews (Colombia, Uganda, South Africa, Togo, Philippines, Ecuador, Indonesia), specialist verification of names in Indigenous languages (Finland), and formal advisory roles (Canada's Indigenous Advisors). Some countries have specific policies dedicated to minority languages, such as Canada, Indonesia, Slovenia, Norway, Sweden, United Kingdom, and Finland.

Table 3: Summary of Indigenous Group Involvement and Engagement Methods

Country	Indigenous Groups Present	Policies Guidelines	Frequency of Involvement (Mapping/ Naming)	Key Engagement/Consultation Methods
Cyprus	Yes	Yes	Incidental	Public consultation for legislation, interdepartmental cooperation, on-site visits for names collection.
Nigeria	Yes	Yes	Incidental	Restoring original/correct place names from native tongues, boundary demarcation.
Colombia	Yes	Yes	Incidental	Restoring original place names from native languages, boundary mapping.
Czechia	Yes	Yes	Permanent	Processing names in immigrant linguistic minorities' languages.
Papua New Guinea	Yes	No	Incidental (Mapping), No (Naming)	The DPLLGA have their officers stationed in provinces who work closely with locals
Uganda	Yes	Yes	Incidental	Stakeholder engagement during field activities, public display of draft maps.
Sudan	Yes	Yes	Incidental	Team-based data collection, field contact with locals.
Timor-Leste	Yes	Yes	No	Constitutional protection of property rights.
Latvia	Yes	Yes	Incidental (Mapping), No (Naming)	Restoring original place names from native languages.
Slovenia	Yes	Yes	No (Mapping), Incidental (Naming)	Collection/standardization of minority names in their official language.
Norway (Language Council)	Yes	Yes	Quarterly (Naming)	Quarterly meetings with Sami/Kven authorities.
Norway (Kartverket)	Yes	Yes	Quarterly (Naming)	Case management in name decision, tripartite consultation meetings.
Sweden (Language & Folklore)	Yes	Yes	When needed	Official referral procedure, direct contact with Indigenous groups.

Ukraine	Yes	Yes	No	Guided by Law "About national minorities (communities) of Ukraine".
South Africa	Yes	Yes	Mostly on ground	Interviewing local residents for names, LPGNC engagement.
United States of America	Yes	Yes	Quarterly (Naming), Ad hoc (Mapping)	Formal gov-to-gov consultation for lidar projects, Tribal conferences.
Germany	Yes	Yes	Incidental	Inviting Indigenous groups to check geographical names data.
Australia	Yes	Yes	Always (Naming)	Language revival/amplification, municipal council engagement.
Togo	Yes	Yes	Incidental	Contact with traditional chiefs/notables, questionnaires.
Philippines	Yes	Yes	Through updates	Interviews during fieldwork, communication, education.
Ecuador	Yes	Yes	Regular/According to plan	Prior consultations, participatory mapping, validation, training.
Russian Federation	Yes	Yes	Involved	Indigenous Peoples' Cartographic Service, State Catalog.
Lao People's Democratic Republic	Yes	Yes	Whenever activity	Participatory mapping, gathering traditional knowledge.
Canada	Yes	Yes	Quarterly (Naming), Ad hoc (Mapping)	Indigenous Advisors, active consultation on name changes, OCAP.
UK	Yes	Yes	Regular engagement	Development and engagement with names policy (Welsh, Gaelic).
Finland	Yes	Yes	See description	Specialist verification, local inhabitant contact, collaboration group.
New Zealand	Yes	Yes	Incidental (Mapping), Quarterly (Naming)	Consulting on names/stories/orthography, direct contact, public notification.
Indonesia	Yes	Yes	Incidental	Verifying LULC data, identifying features/names, providing naming histories.

Key Observations and Implications for Policy and Legal Frameworks

The detailed analysis of policy and legal frameworks reveals several critical observations. The first is that legislation serves as a necessary, but often insufficient, condition for effective collaboration. Many countries report having policies or legislation directly supporting NMA and NNA collaboration, indicating a global recognition of the importance of formalizing these interactions. However, the mere presence of legislation does not automatically translate into effective collaboration or overcome all challenges. For instance, Uganda's reliance on a "law that was enacted in 1939" or Finland's "non-mandatory recommendations" highlight that outdated or non-binding legal frameworks can still contribute to "challenges due to lack of standards".This pattern suggests that while legal frameworks are a crucial foundational step for defining roles, responsibilities, and data flows, their effectiveness is contingent upon their modernity, enforceability, and the sustained political will to implement them. Outdated or weakly enforced legislation can become a significant impediment, indicating that periodic review and proactive updating of legal instruments are as vital as their initial establishment.

A second crucial observation pertains to the spectrum of Indigenous engagement, ranging from mere acknowledgment and "incidental only" involvement in data collection to "permanent" or "quarterly" formal consultations and even advisory roles. This wide variation in frequency and depth suggests different levels of commitment and integration of Indigenous knowledge. This spectrum highlights a critical area for sharing good practices. Countries with more mature engagement models (Canada with its OCAP (Ownership, Control, Access, and Possession) principles and Indigenous Advisors, New Zealand with its Māori Language Plan and specific protocols, Finland with specialist verification and direct local inhabitant consultation) demonstrate a deeper commitment to cultural heritage and data sovereignty. Less frequent or incidental engagement risks leading to incomplete, inaccurate, or culturally insensitive geographical names data, potentially undermining the "common understanding of mapping and naming process" and "improved information exchange" benefits. This points to a pressing need for international guidelines on best practices for meaningful Indigenous engagement, advocating for a shift from mere consultation towards genuine co-stewardship of toponymic heritage, which includes respecting Indigenous data governance.

Good Practices in Policy and Legal Frameworks

- **Explicit Legal Mandates:** Countries with specific acts or laws that directly define NMA and NNA roles and collaboration demonstrate strong foundational support (Cyprus's Law 71(I)/2013, Norway's Place Name Act of 1991, Canada's Department of Natural Resources Act, 1994) .
- **Legal Backing for Data Governance:** Policies that explicitly support the availability, accessibility, exchange, and management of geographical names and mapping data ensure data utility and dissemination (open data policies in Slovenia, United States of America, Iceland, Poland).
- **Formalized Indigenous Engagement Policies:** Countries with specific policies or guidelines for engaging Indigenous groups demonstrate a commitment to cultural

sensitivity and data sovereignty (Canada's OCAP principles, New Zealand's Māori Language Plan, Ukraine's Law about national minorities (communities) of Ukraine, Indonesia's BIG Regulation No.12 of 2017 on Guidelines for Mapping Indigenous Community Areas) .

- **Regular Consultation with Indigenous Authorities:** Frequent and structured consultations with Indigenous authorities ensure their knowledge is integrated and respected. Examples include permanent meetings in Czechia, bi-annually meetings in Austria, and quarterly meetings in Norway, United States of America, New Zealand, Canada)

Strategic Pathway 3: Financial

Analysis of Primary Funding Sources for NMA, NNA, and Collaborations

The primary source of funding for NMA/mapping activities is overwhelmingly the "National/Central/Federal government," reported by 54 countries. This indicates a strong central governmental commitment to national mapping infrastructure. Lao People's Democratic Republic also mentions "foreign assistance" as a source, highlighting external support in some contexts.

Similarly, the "National/Central/Federal government" is the dominant funding source for NNA/geographical naming activities, also reported by 47 countries. However, a significant difference emerges: a notable number of countries (5 mentions) report "None" as the primary source for NNA, indicating a complete lack of dedicated NNA funding in Albania, Cameroon, Chile, Hungary, and Austria. Sudan uniquely mentions "Donors such as UN" as a funding source for NNA activities, suggesting reliance on international support in certain cases.

Funding for collaborative efforts between NMAs and NNAs exhibits more varied approaches. "Both fund their own activities" is the a common approach, reported by 15 countries.[1] A concerning finding is that "No funds dedicated for collaborations" is reported by 15 countries, indicating a significant barrier to inter-agency work in Bulgaria, Sri Lanka, Albania, Cameroon, Papua New Guinea, Sudan, Austria, Togo, the Netherlands, Hungary, Argentina, Chile, Brazil, New Zealand, Indonesia. "Funding comes from the lead mapping or naming agencies" is also prevalent, reported by 22 countries. A "mix of various jurisdictions" (including National/Central/Federal, Regional/State/Provincial, and Local levels) funds collaborations in 5 countries: Australia, Burundi, South Africa, Slovakia, Canada. "No information" regarding funding for collaborations is reported by Ukraine, Russian Federation, Switzerland, Mauritania, and El Salvador.

Table 4: Primary Funding Sources for NMA, NNA, and Collaborations

Funding Source Categories	Count	Countries
National/Central /Federal government (NMA/mapping activities)	54	Cyprus, Albania, Nigeria, Cameroon, Colombia, Czechia, Uganda, Sudan, Timor-Leste, Latvia, Dominican Republic, Slovenia, Norway, Armenia, Ukraine, United States of America, Iceland, Germany, Trinidad and Tobago, Mauritania, Viet Nam, Slovenia, Oman, South Africa, Sweden, Mexico, Togo, Nigeria, Slovakia, Bulgaria, Belgium, Austria, Saudi Arabia, the Netherlands, Hungary, Cuba, Japan, Poland, Philippines, Singapore, Papua New Guinea, Croatia, Sri Lanka, Uruguay, Chile, Burundi, El Salvador, Brazil, United Kingdom, Italy, Switzerland, Finland, New Zealand, Indonesia
National/Central/Federal government (NNA/geographical naming activities)	47	Cyprus, Colombia, Czechia, Uganda, Sudan, Timor-Leste, Latvia, Dominican Republic, Slovenia, Norway, Armenia, Sweden, Ukraine, South Africa, United States of America, Iceland, Germany, Trinidad and Tobago, Mauritania, Viet Nam, Slovenia, Oman, Mexico, Togo, Nigeria, Slovakia, Bulgaria, Saudi Arabia, the Netherlands, Cuba, Japan, Poland, Philippines, Singapore, Papua New Guinea, Croatia, Sri Lanka, Uruguay, Chile, Lao People's Democratic Republic, Burundi, El Salvador, Brazil, United Kingdom, Finland, New Zealand, Indonesia
Regional/State/Provincial government (NMA/mapping activities)	3	Colombia, Cuba, Indonesia
Regional/State/Provincial government (NNA/geographical naming activities)	6	Colombia, Belgium, Cuba, Switzerland, Finland, Indonesia
Local government (NMA/mapping activities)	4	Colombia, Sudan, Cuba, Indonesia
Local government (NNA/geographical naming activities)	7	Colombia, Sudan, Bulgaria, the Netherlands, Cuba, Finland, Indonesia
Business/industries	-	-
Self-financing, Defense and Ministry of the Interior	1	Chile
Foreign assistance	1	Lao People's Democratic Republic

(NMA/mapping activities)		
Donors such as UN	1	Sudan
None	5	Albania, Cameroon, Chile, Hungary, Austria
Prefer not to disclose the information;	3	Australia, Russian Federation, Argentina
Both fund their own activities	15	Cyprus, Timor-Leste, Latvia, Armenia, Norway, Sweden, Iceland, Trinidad and Tobago, Japan, Poland, Philippines, Papua New Guinea, Uruguay, Lao People's Democratic Republic, Burundi
No funds dedicated for collaborations	15	Albania, Cameroon, Papua New Guinea, Sudan, Austria, Togo, Bulgaria, the Netherlands, Hungary, Sri Lanka, Argentina, Chile, Brazil, New Zealand, Indonesia
Funding comes from lead mapping/naming agencies	22	Nigeria, Colombia, Czechia, Uganda, Dominican Republic, Slovenia, United States of America, Germany, Austria, Viet Nam, Slovenia, Oman, Mexico, Nigeria, Belgium, Saudi Arabia, Cuba, Ecuador, Singapore, Croatia, United Kingdom, Italy, Finland
Mix of various jurisdictions	5	Burundi, South Africa, Australia, Slovakia, Canada
No information	5	Ukraine, Mauritania, Russian Federation, El Salvador, Switzerland

Analysis of Financial Challenges in Sustaining Collaborative Efforts

The most pervasive financial challenge reported is "Insufficient Budget/Funding," explicitly cited by numerous countries. These include Cyprus, Albania, Nigeria, Colombia, Czechia, Papua New Guinea, Uganda, Timor-Leste, Slovenia, Chile, Norway, Burundi, Hungary, Trinidad & Tobago, Austria, Cuba, Philippines, Ecuador, Togo, Indonesia, and Lao People's Democratic Republic. Responses highlight inadequate federal funds, limited government budgets, and insufficient resources for ongoing maintenance, updates, and fieldwork. For instance, Nigeria states that "Funds are provided solely by the Federal government and this has been very inadequate". Colombia notes that "Maintaining geographic information is ongoing and requires constant financial resources. In certain situations, there are not enough resources to generate inputs and activities that allow for updated toponymy and cartography in accordance with management and planning requirements".

A distinct challenge is the "Lack of Dedicated Funds for Collaboration," explicitly stated by several countries. This is reported by Albania, Cameroon, Papua New Guinea, Oman, Austria, Mauritania, Togo, the Netherlands, Hungary, Cuba, Sri Lanka, Argentina, and Chile. This indicates that even if individual agencies receive funding, the inter-agency collaborative work often lacks specific budgetary allocation, creating a significant barrier to joint efforts.

"Prioritization Issues" are also frequently cited, where geographical naming activities are "relegated to second place" (Togo) or are not included in national development priorities (Indonesia). This leads to "insufficient awareness of stakeholders on the importance of geographical names" (Indonesia) and makes NNA budgets challenging to sustain. Indonesia explicitly states that "a thorough cost-benefit analysis to demonstrate the value and impact of the project has not been fully implemented for NNA projects," directly linking the lack of demonstrated value to funding difficulties.

"Coordination Challenges" also contribute to financial difficulties, with "Different provinces having different budgetary allocations based on the local interest" (South Africa) and general "Budget constraints, and coordination of various role players" (South Africa) hindering harmonized funding across decentralized systems. Finally, "External Economic/Political Factors," such as the "genocidal and illegal blockade" mentioned by Cuba, can severely impact overall funding and resource availability for geospatial activities.

Table 5: Categorization of Financial Challenges

Challenge Category	Illustrative Examples (Country)
Insufficient Budget/Funding	"Funds are provided solely by the Federal government and this has been very inadequate."(Nigeria) "The government has a limited budget."(Czechia) "Low funding and sometimes no release of funds for mapping and NNA/geographical naming activities."(Uganda)
Lack of Dedicated Funds for Collaboration	"No funds dedicated for collaborations." (Bulgaria, Brazil, New Zealand, Indonesia, Albania, Cameroon, Papua New Guinea, Sudan, Austria, Mauritania, Togo, the Netherlands, Hungary, Cuba, Sri Lanka, Argentina, Chile)
Prioritization Issues	"NNA receives NIH funding from the National Government, that's why it's been inactive over the years."(Papua New Guinea) "activity relegated to second place."(Togo) "insufficient awareness of stakeholders on the importance of geographical names."(Indonesia)
Coordination Challenges	"Different provinces have different budgetary allocations based on the local interest."(South Africa)
External Economic/ Political Factors	"Due to the genocidal and illegal blockade imposed and the situation it created, it faces financial challenges."(Cuba)

Key Observations and Implications for Financial Sustainability

The detailed financial analysis reveals several critical patterns. The first is what can be termed the "Funding Paradox" for NNAs and collaborative efforts. The data clearly shows that while both NMAs and NNAs are primarily government-funded, a significant number of NNAs report no primary funding source, and many collaborations lack dedicated funds. This indicates that while mapping is widely recognized as a core governmental function deserving of consistent funding, geographical naming is often not afforded the same level of independent financial recognition or

is subsumed under mapping budgets without specific allocation. This "funding paradox" directly correlates with the "insufficient awareness of the importance of geographical names" and "lack of prioritization" identified as challenges. If geographical naming is not perceived as a distinct, critical national function, it will consistently be underfunded. This underfunding leads to inactive NNAs (Papua New Guinea, Cameroon) and directly impedes the achievement of "increased efficiency" and "data consistency" that collaboration aims to deliver. This underscores a critical need for stronger advocacy for the strategic value of geographical names at the highest policy levels to secure dedicated and adequate funding.

A second pattern is that decentralization exacerbates funding disparities without strong national oversight. Countries with decentralized NMA and NMA/NNA structures (South Africa, Australia) explicitly report challenges related to "different budgetary allocations based on local interest" or the absence of "overall national geospatial legislation or policy" to give the work an assured and longer-term mandate and funding security" (Australia). This indicates that while decentralized funding models can offer local responsiveness, they are prone to creating significant disparities and inconsistencies in data quality, coverage, and standardization across a country if not underpinned by a robust national policy framework and sufficient central funding or coordination. This directly undermines the goal of a unified and authoritative national geospatial infrastructure, leading to fragmented efforts and potentially hindering national-level data integration and decision-making.

A third significant observation is the critical role of cost-benefit analysis in securing funding. Indonesia's response explicitly states that "a thorough cost-benefit analysis to demonstrate the value and impact of the project has not been fully implemented for NNA projects". This is a direct causal link between the lack of demonstrated value and the difficulty in securing sustained funding. This highlights a crucial gap in the advocacy for geographical names work. If the economic, social, and cultural benefits of standardized geographical names and effective NMA and NMA/NNA collaboration are not clearly articulated, quantified, and presented through rigorous cost-benefit analyses, it becomes exceedingly difficult to secure and sustain dedicated funding from national governments. This suggests a broader need for international bodies like UNGEGN and UN-GGIM to develop and promote methodologies and compelling case studies that demonstrate the tangible value proposition of robust geographical naming and mapping integration.

Good Practices in Financial Sustainability:

- **Integrated Budgeting:** In integrated organizations, where NMA and NNA functions are part of the same entity, collaborative efforts become part of the core institutional budget, mitigating the challenge of "no funds dedicated for collaborations" (Slovakia, Mexico).
- **Demonstrating Value:** Countries that can articulate and demonstrate the strategic value of geographical names are better positioned to secure sustained funding.
- **Seeking Diverse Funding Sources:** Exploring foreign assistance or donor support can supplement national budgets for NNA activities (Lao People's Democratic Republic, Sudan).

Strategic Pathway 4: Data

Analysis of Processes for Integrating Geographical Names Data

Many countries describe a clear, often linear, process where the NNA standardizes or approves geographical names, and the NMA subsequently applies these names to national maps. Examples include Cyprus, Colombia, Czechia, Papua New Guinea, Lao People's Democratic Republic, Uganda, Dominican Republic, Trinidad and Tobago, Bulgaria, Japan, Hungary, Norway, Sweden, Philippines, and Saudi Arabia. In integrated organizations, where NMA and NNA functions are within the same entity or closely linked, internal processes often dictate data flow, with the NMA collecting, the NNA standardizing, and the NMA then applying the names. This is observed in Nigeria, Armenia, El Salvador, Burundi, Austria, Mexico, Slovakia, Oman, and Indonesia.

Centralized authoritative sources are frequently used as key references. These include gazetteers (Cyprus, New Zealand, Nigeria, Australia, United States of America), national registers or databases (Latvia, Slovenia, Sweden, Ukraine, Poland, Sri Lanka, Russian Federation, Finland, Italy, Canada, Croatia, Germany, Belgium, the Netherlands, Slovakia), or locality files (Cameroon). A notable development is the emergence of bidirectional feedback mechanisms, where mapping updates, such as new infrastructure, trigger reviews in the geographical names database, and naming updates or renaming are reflected in map layers, as reported by Saudi Arabia and Indonesia. Traditional methods, such as the use of historical maps and extensive field visits, remain crucial data sources for some countries, including Cameroon, Timor-Leste, Burundi, South Africa, Iceland and Cuba.

Analysis of Methods for Ensuring Data Accuracy and Consistency

Internal quality control procedures are widely implemented across many countries, including Albania, Czechia, Sri Lanka, and Belgium. The application of specific cartographic standards (Cyprus, Lao People's Democratic Republic) and adherence to international metadata standards (ISO 19115, INSPIRE, UNGEGN recommendations) are common practices to ensure data quality and interoperability. Cross-referencing with official sources, cadastral plans, and registers is a key method for validation, as reported by Cyprus, Cameroon, South Africa, Saudi Arabia, and Uruguay

Direct field verification and community engagement are considered essential for validating geographical names and features in countries like Cameroon, Nigeria, South Africa, Philippines, Ecuador, Lao People's Democratic Republic, and Saudi Arabia. The use of consistent information systems and software environments (Czechia) or centralized databases (Slovakia, Saudi Arabia) is crucial for maintaining consistency across datasets. The implementation of unique identifiers for geographical features is also noted as a method to ensure consistency, as seen in Mexico and Australia.

Analysis of Approaches to Resolving Discrepancies and Conflicts

The resolution of discrepancies or conflicts in geographical names data and mapping products typically involves several established approaches. Consultation with the NNA or expert committees is a common method, as reported by Slovenia, Austria, and Saudi Arabia. Many countries rely on official gazetteers or national registers as the authoritative source for conflict resolution (Cyprus, South Africa, Ukraine).

Direct field verification and consultation with local authorities and communities are crucial for resolving ambiguities, as evidenced by practices in Colombia, South Africa, Ecuador, and Saudi Arabia. Internal quality control and review processes are integral to conflict resolution, as implemented in Albania, Czechia, Mexico, and Slovakia. Some countries report that conflicts are rare due to well-established procedures (Czechia) or strict reliance on official sources (Albania).

Analysis of Utilization of Metadata Standards

The adoption of metadata standards is a widespread practice to ensure data quality and usability in collaborations. ISO 19115 (Geographic Information – Metadata) is widely adopted across numerous countries, including Finland, Czechia, Colombia, El Salvador, Uruguay, Sri Lanka, Ecuador, Poland, Austria, Mexico, Cameroon, Albania, Nigeria, Cyprus, Dominican Republic, Oman, Chile, Burundi, Armenia, Australia, Philippines, Slovakia, Saudi Arabia, United Kingdom, New Zealand, and Indonesia. INSPIRE standards are frequently mentioned, particularly by European Member States such as Slovenia, Poland, Croatia, Italy, Finland, Cyprus, Latvia, Germany, Belgium, Austria, and Bulgaria. UNGEGN standards and recommendations are specifically utilized for geographical naming data by several countries, including Cyprus, Oman, Chile, Germany, and Sweden. Other standards mentioned include the Norwegian SOSI-standard (Norway), Federal Geographic Data Committee (FGDC) standards (United States of America, Philippines), and national profiles based on international standards (Czechia, Finland).

Analysis of Legal Arrangements/Policies with Private Platforms

The consistency of maps and geographical names data with private mapping platforms is addressed through various legal arrangements or policies. Some countries explicitly state having such arrangements, often through legislation or internal procedures (Albania, Nigeria, Timor-Leste, Chile, Ukraine, Oman, Slovakia, Bulgaria, Cuba, Philippines, Russian Federation, Lao People's Democratic Republic, United Kingdom, Indonesia, Saudi Arabia, Uruguay). These measures typically involve adherence to national standards and official data sources. However, many countries report having no specific legal arrangements or policies for this purpose (Cyprus, Cameroon, Colombia, Czechia, Papua New Guinea, Uganda, Sudan, Latvia, Dominican Republic, Slovenia, Norway, Sweden, South Africa, United States of America, Iceland, Austria, Germany, Trinidad and Tobago, Mauritania, Viet Nam, Hungary, Japan, Belgium, the Netherlands, Sri Lanka, Burundi, Canada, El Salvador, Brazil, Italy, Switzerland, Finland, New Zealand, Poland, Ecuador, Singapore, Armenia, Mexico, Australia, Togo, Croatia,

Argentina).

Key Observations and Implications for Data Management

The detailed analysis of data management and integration practices reveals several critical patterns. A pervasive observation is that while many countries have established processes for integrating geographical names into mapping products, the effectiveness of these processes is often contingent on the level of digital maturity and the presence of integrated data systems. Countries leveraging modern GIS, APIs, and centralized databases report smoother integration and higher data consistency, enabling quicker updates and reduced duplication of effort. Conversely, those relying on more manual or traditional methods face challenges in ensuring accuracy and resolving discrepancies efficiently. This suggests that investment in digital infrastructure and automated workflows is directly correlated with improved data management and integration, leading to tangible benefits in efficiency and consistency.

A second pattern is the dual challenge of standards: their existence versus their effective implementation and adherence. While a wide array of international and national metadata standards are recognized and adopted, numerous countries report significant challenges in their practical application. These challenges stem from factors such as the complexity of standards, lack of awareness or training, resistance to change, and insufficient resources for implementation. This indicates that simply adopting a standard is insufficient; sustained effort in capacity building, clear communication, and robust enforcement mechanisms are essential to translate theoretical adherence into practical data quality and interoperability. Without these, the benefits of standardization, such as improved information exchange and reduced redundant products, remain unrealized.

A third observation is the varying maturity of legal frameworks governing consistency with private mapping platforms. While some countries have explicit policies or legal arrangements, many do not. This divergence creates potential for inconsistencies in publicly consumed mapping products, which can undermine the authority of national geospatial data. The absence of such frameworks suggests a gap in proactive governance, potentially leading to a fragmentation of geographical names data in the public domain. This points to a need for national authorities to engage more actively with private sector mapping providers to ensure consistency, potentially through data sharing agreements, licensing, or regulatory mandates, thereby reinforcing the authoritative nature of national geospatial information.

Good Practices in Data Management and Integration

- **Centralized Authoritative Sources:** Utilizing official gazetteers, national registers, or centralized databases as the single source of truth for geographical names ensures consistency across all mapping products (Cyprus, United States of America, Latvia, Slovakia, Saudi Arabia, New Zealand, Nigeria, Australia, Slovenia, Sweden, Ukraine, Poland, Sri Lanka, Russian Federation, Finland, Italy, Canada, Croatia, Germany, Belgium, the Netherlands).

- **Bidirectional Feedback Mechanisms:** Implementing systems where mapping updates trigger reviews in the names database and vice-versa ensures real-time consistency (Saudi Arabia, Indonesia).
- **Unique Identifiers:** Employing unique identifiers for geographical features facilitates consistency and integration across different datasets (Mexico, Australia).
- **Field Verification and Community Engagement:** Direct field verification and consultation with local communities are crucial for validating geographical names and features, ensuring accuracy and cultural relevance (Colombia, South Africa, Ecuador, Cameroon, Timor-Leste, Burundi, Iceland and Cuba).
- **Automated Quality Control:** Leveraging GIS software, spatial validation tools, and automated checks for inconsistencies (duplicated names, overlapping boundaries) enhances data accuracy (Belgium, Saudi Arabia).

Strategic Pathway 5: Innovation

Analysis of Innovative Technologies and Methodologies

The adoption of innovative technologies and methodologies is enhancing collaboration between mapping and geographical naming activities. Modern GIS platforms with integrated spatial and textual databases are widely used, allowing for real-time linking of geographic features to standardized names (Nigeria, Trinidad and Tobago, United States of America, Germany, Canada, United Kingdom, Slovakia, Ecuador, Saudi Arabia, Russian Federation, South Africa, Australia, Singapore, Cuba). The use of APIs for data integration and information gathering by communities is noted as a key innovation (Colombia, Canada, Brazil, United Kingdom, Iceland, Germany, Philippines, Singapore). Cloud-native technology and automatic database synchronization are also highlighted (United States of America).

Specific examples include the development of web-based map applications for public feedback and data verification (Cyprus, Ecuador, Canada, South Africa, Iceland, Chile, Australia, New Zealand), the use of digital twins and panoramic imagery for verification (Saudi Arabia), and crowd-sourcing projects for place name collection (Iceland, Ecuador). Some countries are exploring Artificial Intelligence (AI) for data detection and validation (Trinidad and Tobago, Australia, Burundi, Italy), while others are developing internal map support applications for place names (Cyprus, Colombia, Slovakia, Sweden, Iceland, Slovenia, Trinidad and Tobago, United States of America, South Africa, Singapore, Finland, Czechia, Russian Federation, Canada, New Zealand, United Kingdom, Brazil, Ecuador, Philippines, Indonesia).

Analysis of Role of Research and Development

Research and development (R&D) plays a crucial role in enhancing collaboration and improving data quality. R&D efforts focus on developing integration tools, advancing data quality standards, and ensuring real-time synchronization between naming data and spatial datasets (Saudi Arabia). It is instrumental in implementing activities for both NMAs and NNAs (United States of America). R&D also supports the evolution of metadata standards and the

development of new technologies for data management and dissemination (Saudi Arabia). Some countries note that R&D improves data accuracy, which is essential for correct naming and representation of territory (Chile). However, some countries report limited or no effective role for R&D, often due to lack of funding or prioritization (Papua New Guinea, Hungary, Australia, Poland, Croatia).

Key Observations and Implications for Innovation

The analysis of innovative technologies and methodologies reveals a clear trend towards digital transformation in NMA and NMA/NNA collaboration. Countries that actively invest in and adopt modern GIS platforms, APIs, cloud-native technologies, and even AI, report enhanced efficiency, accuracy, and data consistency. These technologies facilitate real-time data linking, automated updates, and more effective public engagement through web-based applications and crowd-sourcing. This indicates a direct correlation between technological advancement and improved collaborative outcomes.

However, the role of Research and Development (R&D) in driving this innovation is inconsistent. While some countries recognize R&D as instrumental for developing integration tools and advancing data quality, others report limited or no effective role due to funding or prioritization issues. This suggests that while the benefits of innovation are widely acknowledged, the investment in the R&D that underpins it is not universally prioritized. A lack of dedicated R&D can hinder the adoption of cutting-edge solutions and slow down the modernization of geospatial and toponymic workflows, ultimately limiting the potential for "updates occurring more quickly" and "increased efficiency".

Good Practices in Innovation

- **Integrated GIS Platforms:** Utilizing modern GIS platforms with integrated spatial and textual databases enables real-time linking of geographic features to standardize names (Chile, Nigeria, United States of America, Saudi Arabia).
- **API-driven Data Integration:** Employing APIs for seamless data integration and information gathering enhances interoperability and efficiency (Colombia, Iceland, Germany, Saudi Arabia, United Kingdom, Brazil, Canada, Russian Federation, Singapore).
- **Web-based Applications for Public Engagement:** Developing web-based map applications for public feedback, data verification, and crowd-sourcing fosters participatory data collection (Slovakia, Iceland, South Africa, Indonesia).
- **Strategic R&D Investment:** Countries that actively invest in R&D for integration tools, data quality standards, and real-time synchronization drive continuous improvement and innovation (United States of America, Saudi Arabia).

Strategic Pathway 6: Standards

Analysis of Utilization of National and International Standards

Both national and international standards are widely used to guide collaborative geographical

names and mapping activities. International standards, particularly UNGEGN recommendations and ISO standards (ISO 19115, ISO 19112, ISO 3166), are frequently adopted across numerous countries (Cyprus, Nigeria, Czechia, Chile, Norway, Sweden, United States of America, Iceland, Germany, Viet Nam, Slovakia, Poland, Philippines, Saudi Arabia, New Zealand, Indonesia). National standards often complement these international guidelines, sometimes in the form of specific acts, technical specifications, or internal regulations (Albania, Czechia, Norway, Sweden, Ukraine, Finland, Lao People's Democratic Republic, Canada).

Analysis of Compliance and Adherence Mechanisms

Compliance with standards is ensured through various mechanisms, including internal quality control procedures (Albania, Czechia, Belgium), legal acts and mandates (Armenia, Poland, Bulgaria), regular ISO standardization (Cyprus), and monitoring tests by international bodies (Cyprus). Some countries utilize performance management systems to recognize and reward staff for adherence (Nigeria).

Analysis of Challenges in Implementing and Adhering to Standards Collaboratively

Challenges in implementing and adhering to these standards collaboratively include a lack of commitment and desire to embrace change (Nigeria), difficulty in massifying tools and ensuring data reflects reality (Colombia), poor funding (Czechia), lack of knowledge and adherence (Slovenia), and the complexity or restrictive nature of international standards (Germany). Other challenges include outdated laws (Uganda), discrepancies between provincial bodies (South Africa), and issues with data quality elements (South Africa). The absence of comprehensive standard guidelines, lack of awareness, resistance to new standards, and shortage of skilled personnel are also cited as significant impediments (Indonesia).

Key Observations and Implications for Standards

The detailed analysis of data management and integration practices reveals several critical patterns. A pervasive observation is that while many countries have established processes for integrating geographical names into mapping products, the effectiveness of these processes is often contingent on the level of digital maturity and the presence of integrated data systems. Countries leveraging modern GIS, APIs, and centralized databases report smoother integration and higher data consistency, enabling quicker updates and reduced duplication of effort. Conversely, those relying on more manual or traditional methods face challenges in ensuring accuracy and resolving discrepancies efficiently. This suggests that investment in digital infrastructure and automated workflows is directly correlated with improved data management and integration, leading to tangible benefits in efficiency and consistency.

A second pattern is the dual challenge of standards: their existence versus their effective implementation and adherence. While a wide array of international and national metadata standards are recognized and adopted, numerous countries report significant challenges in their practical application. These challenges stem from factors such as the complexity of standards,

lack of awareness or training, resistance to change, and insufficient resources for implementation. This indicates that simply adopting a standard is insufficient; sustained effort in capacity building, clear communication, and robust enforcement mechanisms are essential to translate theoretical adherence into practical data quality and interoperability. Without these, the benefits of standardization, such as improved information exchange and reduced redundant products, remain unrealized.

Good Practices in Standards Adoption and Implementation

- **Consistent Application of Standards:** NMAs and NNAs that consistently apply agreed-upon national and international geographical naming standards demonstrate higher levels of data consistency and interoperability (Norway, Sweden, Saudi Arabia, Cyprus, Nigeria, Czechia,Chile, United States of America, Iceland, Germany, Viet Nam, Slovakia, Poland, Philippines, New Zealand, Indonesia).
- **Internal Quality Control Procedures:** Robust internal quality control procedures ensure compliance with standards (Albania, Czechia, Norway, Sweden, Ukraine, Finland, Lao People's Democratic Republic, Canada) .
- **Legal Mandates for Compliance:** Countries with legal acts or mandates enforcing compliance ensure widespread adherence (Armenia, Poland, Bulgaria) .
- **Performance Management Systems:** Utilizing performance management systems to recognize and reward staff for adherence can incentivize compliance (Nigeria).

Strategic Pathway 7: Partnerships

Analysis of Frequent Partners to NMA/Mapping Activities

National Mapping Agencies frequently partner with a diverse range of entities. The most common partners include:

- **National level institutions:** Reported by 54 countries. These often include government ministries (Ministry of Home Affairs, Ministry of Urban Development, Ministry of Finance, Ministry of Public Works, Ministry of Defense, Ministry of Health, Statistical Office, Ministry of Environment and Water, Ministry of Foreign Affairs, Ministry of Agriculture, Ministry of Regional Development, Ministry of Culture, Ministry of Tourism, Ministry of Education, Ministry of Transport, Ministry of National Development Planning, Ministry of Religion, Ministry of Marine Affairs and Fisheries), national statistical offices, and military services.
- **Academia:** Reported by 36 countries. Universities and research institutes play a significant role in research, development, and capacity building.
- **Local governments:** Reported by 43 countries. Municipalities and local councils are crucial for ground-level data collection and verification.
- **Private industry:** Reported by 22 countries. This includes land survey companies, commercial cartography publishers, and geospatial technology providers.
- **Public:** Reported by 30 countries. Public engagement is often sought for feedback and

data validation.
- **Regional/State/Province institutions:** Reported by 39 countries. These entities are important in decentralized systems.
- **Non-profit organizations:** Reported by 17 countries. These may include heritage associations or environmental groups.

Analysis of Frequent Partners to NNA/Geographical Naming Activities

National Names Authorities also engage with a broad spectrum of partners, often mirroring those of NMAs but with a stronger emphasis on linguistic and cultural bodies:

- **National level institutions:** Reported by 38 countries. LikeNMAs, these include various government ministries and statistical offices.
- **Academia:** Reported by 31 countries Universities and research institutes, particularly those specializing in onomastics, linguistics, and history, are key partners.
- **Local governments:** Reported by 43 countries. Local councils and communities are vital for validating local names.
- **Public:** Reported by 29 countries. Public feedback and participation are integral to naming processes.
- **Regional/State/Province institutions:** Reported by 38 countries.
- **Private industry:** Reported by 9 countries.
- **Non-profit organizations:** Reported by 15 countries. These often include cultural heritage groups and language advocacy organizations.

Specific frequent partners listed across responses include:

Ministry of Home Affairs, Statistical Office, Navy, Ministry of Urban Development, Ministry of Finances, Public Work, Defense, Health, Police, Military Services, Universities, Schools, Ministry of Legal Affairs (Registrar General Department), Ministry of Finance (Valuation Division), Commissioner of State Lands, Ministry of Works and Transport, Land Settlement Agency, The University of the West Indies, St. Augustine, Ministry of Environment and Water, Military Topographic Service, National Statistical Institute, Bulgarian Academy of Science, Ministry of Foreign Affairs, Ministry of Culture, Slovak University of Technology, Slovak Academy of Sciences, Ministry of Agriculture, Ministry of Regional Development, Ministry of Interior, Ministry of Tourism, Uganda Wildlife Authority, Uganda Peoples Defense Forces, National Forestry Authority, National Heritage Agency, National Post Office, Dept of Cooperative Governance, SA Roads Agency, SA Local government association, SA Language Body, Pan American Institute of Geography and History, Agencia Mexicana de Cooperación para el Desarrollo Internacional, Church of Sweden, local heritage associations, postal service, media, Federal Office of Statistic, Cantons, Cadastral Mapping Authorities, Ministry of Public Education, Ministry of Health, Ministry of the Navy, Ministry of National Defense, Ministry of Communications and Transportation, States and municipalities, Ministry of Environment and Natural Resources, Ministry of Public Works and Transportation, Hydroelectric Executive Commission of the Lempa River, Ministry of Foreign Affairs, Ministry of Defense, Ministry of National Development Planning, Ministry of Religion, Ministry of Marine Affairs and Fisheries, Mapping NGOs, Mapping Experts, Toponymy Experts, Customary Landowners, National Health and Education Department, National Planning Authority, Land Survey Companies, Provincial

Authorities, Military, Mineral Resource Authority, and the Sami Parliament.[1]

Analysis of Public-Private Partnerships

The implementation of Public-Private Partnerships (PPPs) in geographical naming or mapping activities is less common, with many countries reporting "No" such initiatives. However, some countries have engaged in PPPs

- **Czechia:** All of our data is free to the private sector and the population.
- **Sweden:** Collection of place names through crowd-sourcing and citizen science".
- **Indonesia:** BIG has signed a PPP contract with a State Owned Company (SOC) for updating and maintaining base maps, producing 1:1,000 base maps and developing commercial applications/services from geospatial data. For naming activities, one private mapping company approached BIG for a potential partnership. However, BIG as NNA ultimately decided not to agree to the partnership due to concerns about data security and uncertainty regarding data sharing protocols.
- **Canada:** NMA partners with other governments and the private sector through OGC Innovation activities to prototype geospatial standards, supporting their development.
- **United Kingdom:** Ordnance Survey makes data available through a number of sources. This includes traditional mapping products which are available as open data as well as premium data.
- **New Zealand:** Engages in public-private partnerships, including seeking orthographic advice from a private licensed expert in Māori orthography and connections with Apple Maps and Google.
- **Saudi Arabia:** Provides licenses and permits to private enterprises for surveying and geospatial activities, with over 52 private sector beneficiaries on their National Geospatial Platform (NGP). They promote PPPs to boost geospatial economic growth and coordinate with private sector entities for geographical names management.

Key Observations and Implications for Partnerships

The analysis of partnerships and stakeholder engagement reveals important patterns regarding the ecosystem of NMA and NNA operations. A notable observation is the broad and diverse range of partners engaged by both NMAs and NNAs, extending beyond traditional government entities to include academia, local governments, the private sector, and the public. This wide network indicates a recognition of the multidisciplinary nature of geospatial and toponymic work and the necessity of collaborative input for comprehensive and accurate data. The involvement of local governments and academia is particularly crucial for ground-level data collection and research, while public engagement supports validation and relevance.

However, a contrasting pattern emerges in the adoption of Public-Private Partnerships (PPPs). While some countries, like Saudi Arabia and Indonesia, are actively pursuing or have implemented PPPs for mapping and, to a lesser extent, naming activities, a significant number of respondents indicate no such initiatives. This suggests a potential underutilization of private

sector capabilities and resources in many countries. The hesitation may stem from concerns about data security, sharing protocols, or a lack of established frameworks for such collaborations, as highlighted by Indonesia's experience. This limited engagement with the private sector could impede the adoption of innovative technologies, restrict data dissemination channels, and constrain financial sustainability, thereby limiting the potential for "increased efficiency" and "updates occurring more quickly". Expanding and formalizing PPP frameworks, with clear guidelines on data governance and intellectual property, could unlock significant benefits for national geospatial infrastructure

Good Practices in Partnerships

- **Diverse Partner Engagement:** Actively engaging a broad range of partners, including national and local governments, academia, the public, and non-profit organizations, ensures comprehensive data collection and validation (Cyprus, United States of America, Sweden).
- **Formalized PPP Frameworks:** Establishing clear legal arrangements or policies for Public-Private Partnerships can leverage private sector capabilities and resources (Saudi Arabia, Indonesia, Canada).
- **Crowd-sourcing Initiatives:** Implementing crowd-sourcing projects for place name collection fosters citizen science and broadens data sources (Iceland, Sweden).
- **Inter-agency Agreements:** Formal agreements with other government agencies, including statistical offices and defense ministries. ensure coordinated data use and sharing.

Strategic Pathway 8: Capacity and Education

Analysis of Joint Capacity-Building or Education Programs

Many countries report the existence of joint capacity-building or education programs between NMAs and NNAs. These programs aim to enhance technical competencies, promote standardization, and support national geospatial development goals. Examples include:

- **Cyprus:** "Educational programs and seminars are organized".
- **Colombia:** Reports "in development" for such programs.
- **Czechia:** "Educational programs and seminars are organized".
- **Norway (Language Council):** Mentions "Internet based courses, webinars and websites with handbooks and guidelines".
- **South Africa:** NMA educates gGeography teachers and provides spatial training for NNA, while NNA coordinates training for provincial offices on procedures and acts.
- **Sweden:** Notes "A long-term collaboration between government authorities that use and are responsible for the reporting of administrative divisions (both historical and contemporary) and how they are used to link names to physical locations".
- **Philippines:** Mentions "Training and retraining of staff".
- **Ecuador:** Reports "Training programs on the collection and standardization of

geographical names, as well as on the use of GIS tools for mapping activities".

- **Saudi Arabia:** Is undertaking a feasibility study to establish a "National Geospatial Academy" and organizes collaborative training workshops with industry leaders. They also integrate with academic institutions for geospatial education.
- **Viet Nam:** Has a training program on standardizing place names on maps for localities (provincial level)".
- **Indonesia:** "Several training programs related to updated technologies and methods for geographical names data collection and mapping production have been conducted in recent years".

Conversely, many countries report "No" joint capacity-building or education programs.

Analysis of Challenges in Building or Maintaining Joint Programs

Despite the recognized benefits, several challenges impede the establishment and maintenance of joint capacity-building programs. The most frequently cited challenge is financial constraints or budget shortages (Cyprus, Czechia, South Africa, Lao People's Democratic Republic, United States of America, Nigeria, Norway, Philippines, Saudi Arabia, Singapore, Indonesia). These limitations often make it difficult to cover planned expenses, invest in necessary hardware/software, or sustain professional staff.

Another significant challenge is coordination across departments or stakeholders. This includes differing priorities, workflows, and technical requirements between agencies (Saudi Arabia), as well as a lack of communication between stakeholders (Indonesia). Some countries also mention limited knowledge or expertise among local officials (Viet Nam) or a general shortage of skilled personnel (Saudi Arabia). The rapid evolution of geospatial technologies also presents a challenge, requiring continuous upskilling of staff (Saudi Arabia).

Key Observations and Implications for Capacity Building

The analysis of capacity building and education programs reveals a mixed picture. While many countries recognize the importance of joint training and information exchange, and some have implemented various forms of programs, a significant number still report their absence or face considerable challenges in sustaining them. This indicates a general understanding of the value of such programs, but often a struggle with their implementation.

A primary observation is the direct link between financial constraints and the ability to sustain joint programs. The pervasive issue of "Insufficient Budget/Funding" and "Lack of Dedicated Funds for Collaboration" directly translates into "Mainly economical challenges" (Cyprus), "Poor funding" (Czechia), or "Budget constraints" (South Africa, Norway, Philippines, Saudi Arabia) for capacity building. This reinforces the earlier finding that geographical naming activities, and consequently joint efforts, are often under-prioritized in national budgets. Without dedicated and sufficient funding, even well-intentioned programs struggle to move beyond incidental or limited initiatives, hindering the broad dissemination of best practices and consistent skill development across agencies.

A second pattern is that coordination and communication gaps, identified as general collaboration challenges, directly manifest as impediments to joint capacity building. "Coordination of various role players" (South Africa) and "lack of communication between stakeholders" (Indonesia) are explicitly cited as challenges in maintaining joint programs. This suggests that even when funds might be available, the absence of robust inter-agency coordination mechanisms can prevent effective program design and delivery. This indicates that capacity building is not solely about funding; it also requires strong institutional leadership and established communication channels to align training needs and resources across different entities. Effective joint programs, therefore, serve as both a *product* of good collaboration and a *catalyst* for its improvement.

Good Practices in Capacity Building and Education

- **Joint Training Programs:** Implementing joint capacity-building programs and workshops (South Africa, Lao People's Democratic Republic, Ecuador, Saudi Arabia, Indonesia, and Viet Nam) enhances shared understanding and technical skills across NMA and NNA personnel (South Africa, Lao People's Democratic Republic, Ecuador, Saudi Arabia, Indonesia, and Viet Nam) .
- **Online Resources and Handbooks:** Providing internet-based courses, webinars, and websites with handbooks and guidelines facilitates accessible and continuous learning (Norway).
- **Cross-training and Information Sharing:** Initiatives for cross-training and internal information sharing (United States of America) foster a more integrated workforce (United States of America).
- **Integration with Academia:** Collaborating with academic institutions for geospatial education and research helps develop a skilled future workforce (Saudi Arabia).

Strategic Pathway 9: Communication and Engagement

Analysis of Mechanisms for Public Consultation and Feedback (NMA)

Many countries have established mechanisms for public consultation and feedback related to NMA/mapping activities. Common approaches include:

- **Web portals and official websites:** Used to collect public feedback on changes in land use, land cover, or to promote new mapping products (Chile, Norway, Ukraine, Poland, Ecuador, Cyprus, Czechia, United States of America, Austria, Germany, Sweden, Mexico, Australia, Slovakia, Belgium, Saudi Arabia, Indonesia, United Kingdom, Switzerland, Finland, New Zealand).[1]
- **Social media:** Utilized to promote new mapping products and engage with the public (Albania, Czechia, United States of America, Germany, Sweden, Mexico, Australia, Togo, Slovakia, Saudi Arabia, Indonesia, United Kingdom, Switzerland, Finland, the Netherlands, Canada, Uruguay, Singapore).
- **Direct communication channels:** Such as letters, emails, and help desks, for receiving

queries and suggestions (Cyprus, United States of America, New Zealand, Iceland, South Africa, Japan, Sri Lanka).
- **Public meetings and workshops:** Organized for consultation (South Africa, Philippines, Lao People's Democratic Republic).
- **Crowd-sourcing platforms:** Allowing users to report deficiencies or contribute data (Belgium, Iceland, Croatia, Colombia).

Analysis of Ways of Engaging with the Public (NMA)

Engagement methods often overlap with feedback mechanisms, focusing on proactive dissemination and interaction:

- **Promoting new products:** Through websites, social media, and newsletters (Cyprus, Czechia, United States of America, Sweden, Mexico, Australia, Slovakia, Saudi Arabia, United Kingdom, Colombia, Armenia, Indonesia, New Zealand, Canada, Uruguay, Sri Lanka, Philippines, Germany).
- **Public consultations:** For new legislation proposals or specific projects (Cyprus, South Africa, Philippines).
- **Academic and industry conferences:** For broader outreach (Cyprus, Colombia, Czechia, United States of America, Iceland, Austria, Germany, Mauritania, Viet Nam, Australia, Togo, Nigeria, Slovakia, Saudi Arabia, Canada, United Kingdom, Switzerland, Finland, New Zealand, Indonesia).
- **Hosted workshops and webinars:** To inform and gather input (Cyprus, Colombia, Czechia, United States of America, Norway, Sweden, Australia, Togo, Nigeria, South Africa, Slovakia, Saudi Arabia, Canada, United Kingdom, Finland, New Zealand, Indonesia, Lao People's Democratic Republic).
- **Direct engagement with institutions:** Such as police stations, schools, and local government (South Africa).

Analysis of Measuring Effectiveness of Communication (NMA):

Measuring the effectiveness of communication and engagement efforts is done through various metrics:

- **Web analytics:** Tracking web visits, downloads, time on page, and clicks (Cyprus, United States of America, Iceland, Mexico, Australia, Saudi Arabia, Canada, Singapore).
- **Social media analytics:** Monitoring likes, shares, comments, and reach (United States of America, Mexico, Australia,Saudi Arabia, Indonesia, Canada, New Zealand).
- **Surveys and questionnaires:** To collect user satisfaction and suggestions (Czechia, Trinidad and Tobago, Saudi Arabia, Slovakia, Lao People's Democratic Republic).
- **Response rate and resolution time for inquiries:** (Saudi Arabia).
- **Participation levels at events/webinars:** (Saudi Arabia, Canada).

Analysis of Processes for Public Consultation and Feedback (NNA):

Public consultation and feedback processes for NNA/geographical naming activities largely mirror those for mapping activities:

- **Official websites and portals:** Used to collect feedback on naming proposals and decisions (Cyprus, United States of America, Saudi Arabia, New Zealand, Czechia, Latvia, Ukraine, Mexico, Australia, Nigeria, Sri Lanka, Uruguay, Norway).
- **Letters and emails:** For direct communication (Cyprus, New Zealand, Cyprus, Australia, Uruguay).
- **Public hearings and meetings:** Organized by local committees for name applications (South Africa).
- **Social media:** For promoting naming activities (Mexico, Saudi Arabia, United Kingdom, Armenia, Colombia).
- **Direct access to NNA staff:** For questions and feedback (United States of America).
- **Consultation with local communities and experts:** As part of name collection and validation (Saudi Arabia).

Analysis of Ways of Engaging with the Public (NNA)

Engagement methods for NNA activities also emphasize public outreach:

- **Promoting naming activities:** Through social media and official websites (Mexico, Saudi Arabia, Colombia, Czechia, Latvia, Armenia, Ukraine, Norway, Germany, Australia, Nigeria, Philippines, Sri Lanka, Uruguay, Indonesia, Slovakia).
- **Information seminars and workshops:** (Slovakia, South Africa, Australia, Lao People's Democratic Republic).
- **Press releases and announcements:** (Slovakia).
- **Direct engagement and customer satisfaction:** (United States of America).
- **Publication in official gazettes and public notices:** (New Zealand).

Analysis of Measuring Effectiveness of Communication (NNA)

Measuring effectiveness for NNA activities also involves:

- **Statistical analysis:** Including number of web visits (Cyprus, Czechia, Canada, Indonesia), social media engagement (Mexico, Saudi Arabia, Canada, Indonesia), and surveys (Cuba, Latvia, Australia, Saudi Arabia).
- **Quantity and quality of applications received/names approved:** (South Africa).
- **Volume of inquiries and responses:** (New Zealand).
- **Feedback trends and engagement levels:** (Saudi Arabia).

Key Observations and Implications for Location-based Information & Public Engagement

The analysis of communication and public engagement reveals a growing recognition of the importance of public involvement in both mapping and naming activities. Most countries utilize a range of digital platforms, including official websites, web portals, and social media, alongside

traditional methods like public meetings, to disseminate information and gather feedback. This widespread adoption of digital channels indicates a move towards greater transparency and accessibility in geospatial information management. The increasing use of web analytics and social media metrics to measure engagement also points to a more data-driven approach to communication strategies.

However, a critical observation is the varying depth and effectiveness of public engagement. While many countries have mechanisms for feedback, the quality and quantity of public input can differ significantly. For instance, some countries report that their social media platforms are not yet effective in generating significant engagement, or that the utilization of base maps remains largely confined to planning purposes rather than widespread public use (Indonesia). This suggests that merely providing channels for feedback is insufficient; proactive strategies are needed to foster genuine public participation and demonstrate the tangible value of geospatial data in daily life. A lack of measured effectiveness in some areas also indicates a gap in understanding whether communication efforts are truly resonating with the public. This points to a need for more robust, standardized methodologies for evaluating public engagement, moving beyond simple metrics to assess the actual impact on public understanding, data quality, and policy outcomes.

Furthermore, the integration of public feedback into data management workflows varies. While some countries have clear processes for incorporating public suggestions into database updates, others do not explicitly detail this integration. This highlights a potential disconnect between public consultation efforts and their direct impact on the authoritative national datasets. Maximizing the benefits of public engagement requires not only effective communication but also streamlined internal processes to act upon the feedback received, ensuring that public contributions genuinely enhance the accuracy and relevance of geographical names and mapping products.

<u>Good Practices in Location-based Information & Public Engagement:</u>

- **Integrated Public Consultation Platforms:** Developing and implementing joint web-based platforms for public consultation on geographical names and mapping updates enhances accessibility and transparency (Iceland, Saudi Arabia, Canada, Sri Lanka, Ukraine, Latvia) .
- **Multi-channel Engagement:** Utilizing a combination of official websites, social media, public meetings, and crowd-sourcing platforms ensures broad outreach and diverse feedback collection (United States of America, Australia, Belgium, New Zealand, Indonesia, Czechia).
- **Data-driven Communication Evaluation:** Employing web and social media analytics, surveys, and tracking complaint/suggestion volumes helps measure the effectiveness of communication efforts (United States of America, Saudi Arabia, Uruguay, Poland, Philippines, Nigeria, Mexico, Germany, Armenia, Colombia) .
- **Proactive Dissemination:** Regularly promoting new products and services through various channels, such as (newsletters, conferences or webinars) keeps the public

informed and engaged (Cyprus, Czechia, UK, Lao People's Democratic Republic, Slovakia, South Africa, Slovenia).

Conclusion and Way Forward

The comprehensive analysis of survey responses from National Mapping Agencies (NMAs) and National Names Authorities (NNAs) provides a nuanced understanding of their relationships, challenges, and good practices. This deep examination confirms and elaborates upon preliminary observations, revealing interconnected systemic issues that impact the efficiency and effectiveness of national geospatial information management.

This deeper analysis strengthens earlier conclusions about the complexity and diversity of NMA–NNA relationships by uncovering their underlying causes and broader implications.

1. **Structural Heterogeneity as a Fundamental Standardization Barrier**: The initial observation of diverse NNA structures is now understood as a primary impediment to global standardization. The lack of a uniform NNA model means that international good practices must be highly adaptable, acknowledging that a "one-size-fits-all" approach is impractical. This necessitates a focus on flexible frameworks rather than rigid templates.
2. **The Criticality of Foundational Relationships**: The explicit reporting of "no relationship" between NMAs and NNAs in certain countries is not merely a data point but a critical indicator of a profound geospatial governance deficit. This absence directly translates into systemic inefficiencies and data fragmentation, underscoring the urgent need for foundational interventions in these specific contexts to establish even basic collaborative mechanisms.
3. **Funding as a Strategic Prioritization Challenge, Not Just a Resource Scarcity**: The pervasive financial challenges are not solely about a lack of funds but, more fundamentally, about the strategic undervaluation of geographical naming activities. Even in integrated organizations, if geographical names are not perceived as a core, high-priority national asset, dedicated funding will remain elusive. This suggests that advocacy efforts must shift from merely requesting funds to demonstrating the tangible economic, social, and cultural value proposition of robust geographical naming.
4. **Legislation's Dual Role as an Enabler and Potential Impediment**: While legislation is widely recognized as an enabler for collaboration and data governance, its effectiveness is contingent on its modernity and consistent enforcement. Outdated or weakly enforced laws can become as significant a barrier as a complete absence of policy, highlighting the need for continuous legal review and adaptation.
5. **Indigenous Engagement: Beyond Consultation to Co-Stewardship**: The varying maturity of Indigenous engagement models reveals a critical area for development. Moving beyond incidental consultation towards genuine co-stewardship, respecting Indigenous data sovereignty principles, is essential for culturally accurate and comprehensive toponymic data. This requires not just policies, but sustained commitment to equitable partnerships.
6. **Operational Refinement is Continuous**: Even countries with integrated NMA and NNA

structures report ongoing challenges in communication, data management, and workflows. This indicates that structural integration is a starting point, not an endpoint. Continuous investment in digital infrastructure, automated workflows, and inter-agency communication protocols is necessary to fully realize the benefits of integration and achieve optimal operational harmony.

Synthesis of Findings

The institutional landscape of NNAs is highly diverse, contrasting sharply with the more uniform structure of NMAs. This inherent heterogeneity in NNA models, often rooted in unique national contexts, complicates the establishment of universally applicable standardization efforts. While many countries have established formal legal frameworks for NMA and NNA collaboration, the mere presence of such legislation does not guarantee effective implementation or overcome all operational challenges. A concerning finding is the complete absence of NMA and NNA relationships in some countries, representing a significant governance gap that inevitably leads to inefficiencies and data inconsistencies.

Financial constraints represent a pervasive and critical impediment to NMA and NNA collaboration. Geographical naming activities, in particular, frequently suffer from a lack of dedicated funding and prioritization, often being "relegated to second place" within national budgets. While organizational integration can mitigate issues related to collaboration-specific funding, it does not resolve overall budgetary shortfalls if the combined entity is underfunded or if the strategic value of geographical names is not adequately articulated. This financial vulnerability directly impacts the ability to invest in modern technologies, implement standards, and sustain capacity-building programs.

The involvement of Indigenous groups in mapping and geographical naming efforts varies widely, from incidental participation to formalized co-stewardship models. This spectrum highlights both leading practices in cultural heritage preservation and significant gaps where Indigenous knowledge and data sovereignty are not fully integrated. Data management and integration practices are evolving, with many countries leveraging modern GIS and digital platforms. However, challenges persist in ensuring consistent adherence to standards, resolving discrepancies, and engaging effectively with private mapping platforms. Despite observed benefits such as avoiding duplication and increasing efficiency, areas for improvement consistently point to communication, data management, workflows, and standards implementation.

Way Forward

As initial recommendations call for the development of example policy and legal instruments, a focus is needed on stronger advocacy for the strategic value of geographical names, investment in digital infrastructure, standardized engagement with Indigenous communities, and improved funding models that recognize the long term benefits of coordinated mapping and naming efforts. Yet, these are still to be finalized.

In this regard, and in consideration that contributions from NGIAs could be further enhanced, the Convenors of the collaborative project invite further contributions from NGIAs until 26 September 2025. Following this, the Convenors would seek to finalize the report of its findings, providing a comprehensive analysis of the broad area in which both bodies are situated.

Following this, the Convenors will initiate outreach to both communities via an online webinar to share findings and invite contributions to the forthcoming “Compendium of good practices and recommendations”, while inviting, via template, examples of good practice. Upon completion of these activities, it is anticipated that the recommendations and accompanying examples of good practice will form the basis of the Compendium. This Compendium will be circulated through a global consultation process involving both bodies, to ensure alignment with their respective work programmes and strategic priorities. Following this consultation, the finalized Compendium will be presented for adoption at the sixteenth session of the Committee of Experts, and subsequently submitted for endorsement by the Group of Experts at its 2027 session.

Appendices

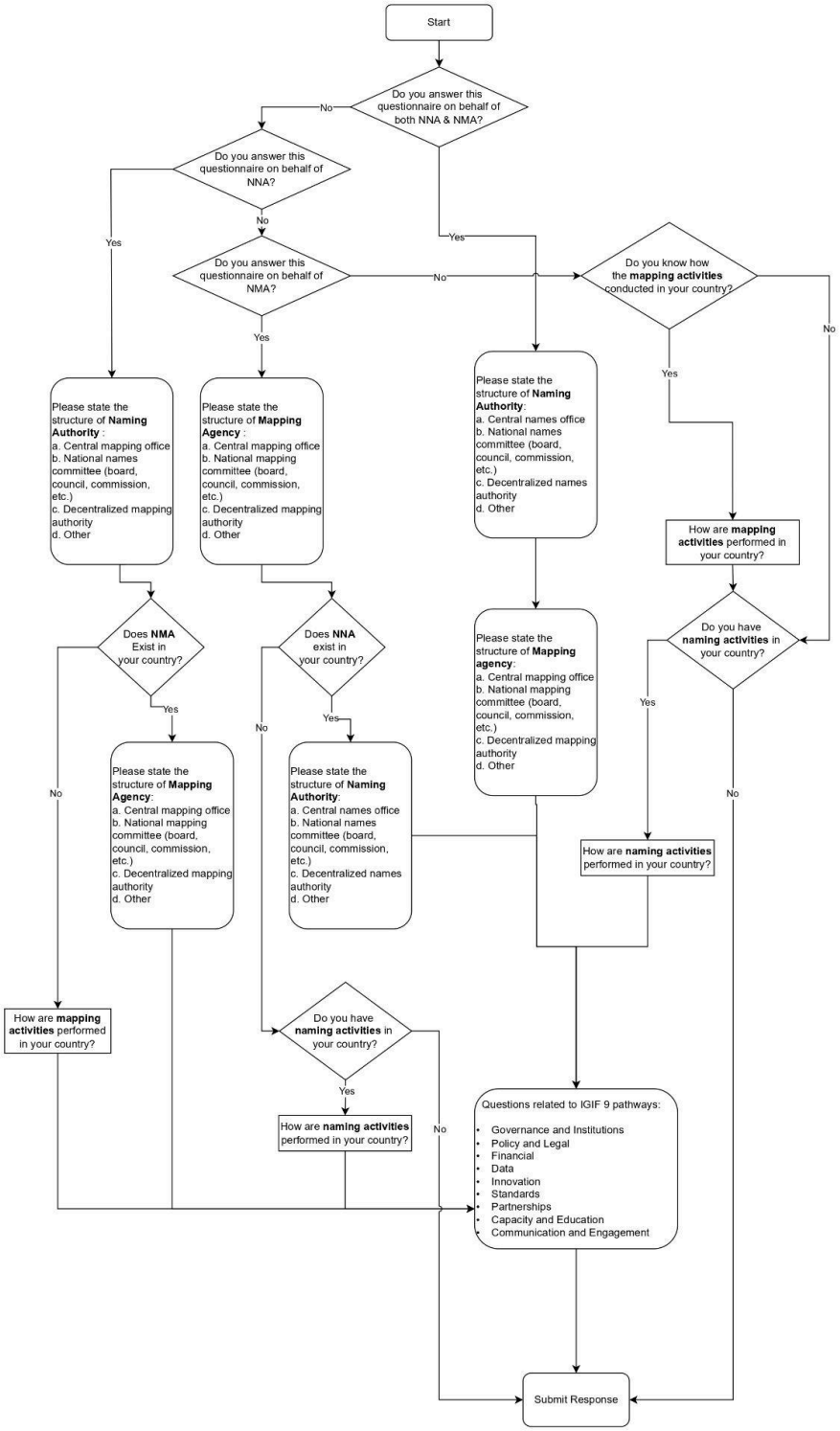
- **Appendix A: Survey Questionnaire** *(Full text of the survey instrument used for data collection.)*
- **Appendix B: Summary Statistics of Survey Responses** *(Detailed quantitative breakdown of responses to multiple-choice and categorical questions, including percentages and frequencies for each option.)*
- **Appendix C: List of Participating Countries** *(A list of countries that contributed to the survey, subject to confidentiality agreements.)*

Further Information

Further information, including detailed Illustrative Qualitative Responses, that are selected anonymized excerpts from open-ended survey questions that exemplify common practices, challenges, or unique insights, can be found on the Collaborative Project’s website: https://unstats.un.org/unsd/ungegn/collaborative_project/

Appendix A: Survey Questionnaire

Questionnaire Questions Flow



Questionnaire for UNGEGN & UN-GGIM Member States

MS Form Link : https://forms.office.com/r/1kBAKy3uLY

No.	Questions	Mandatory?	Field Type
	General Information		
1	Please enter your name	Yes	Short-text
2	Which country do you represent?	Yes	Short-text
3	Which organization/institution do you represent?	Yes	Short-text
4	Please provide your email address Description: Emails will be used solely for follow-up questions regarding submitted responses and for further correspondence.	Yes	Short-text
5	Do you answer this questionnaire on behalf of? a. National Names Authority (NNA) b. National Mapping Agency (NMA) c. Both d. Other Description: If your country does not have a NNA or NMA, or if you do not represent either of them, please clarify your focus. For example, specify whether you are involved in mapping activities or naming activities. If answer a, proceed to No. 6 If answer b, proceed to No. 7 If answer c, proceed to No. 8 If answer d, proceed to No. 15	Yes	Single answer
6	If answer 5a: What is the structure of the National Names Authority (NNA)? a. Central naming office b. National names committee (board, council, commission, etc.) c. Decentralized naming authority d. Other (fill in the explanation) Description: - Central names office: The authority is solely vested in an existing government office. - National names committee: A geographical names committee that includes sufficient staff support, comprising representatives from various key government offices and possibly non-governmental experts. - Decentralized names authority: A structure to establish standardization and delegates naming authority to the major civil or administrative divisions within the country. proceed to 10	Yes	Single answer

No.	Questions	Mandatory?	Field Type
7	If answer 5b: What is the structure of the National Mapping Agency (NMA)? a. Central mapping office b. National mapping committee (board, council, commission, etc.) c. Decentralized mapping authority d. Other (fill in the explanation) Description: - Central mapping office: The authority is solely vested in an existing government office. - National mapping committee: A mapping committee that includes sufficient staff support, comprising representatives from various key government offices and possibly non-governmental experts. - Decentralized mapping authority: The mapping authority is delegated to the major civil or administrative divisions within the country. proceed to 12	Yes	Single answer
8	If answer 5c: What is the structure of the National Names Authority (NNA)? a. Central naming office b. National names committee (board, council, commission, etc.) c. Decentralized naming authority d. Other (fill in the explanation) Description: - Central names office: The authority is solely vested in an existing government office. - National names committee: A geographical names committee that includes sufficient staff support, comprising representatives from various key government offices and possibly non-governmental experts. - Decentralized names authority: A structure to establish standardization and delegates naming authority to the major civil or administrative divisions within the country. proceed to 9	Yes	Single answer

No.	Questions	Mandatory?	Field Type
9	After answer Question no.8 and 10.a: What is the structure of the National Mapping Agency (NMA)? a. Central mapping office b. National mapping committee (board, council, commission, etc.) c. Decentralized mapping authority d. Other (fill in the explanation) Description: - Central mapping office: The authority is solely vested in an existing government office. - National mapping committee: A mapping committee that includes sufficient staff support, comprising representatives from various key government offices and possibly non-governmental experts. - Decentralized mapping authority: The mapping authority is delegated to the major civil or administrative divisions within the country. proceed to next section (No. 20)	Yes	Single answer
10	After answer Question No 6 Does a National Mapping Agency exist in your country? a. Yes b. No if answer 10.a proceed to No.9 if answer 10.b proceed to No.11	Yes	Single answer
11	If answer 10.b: What organizations produce the mapping product(s) in your country? proceed to next section	Yes	Long-text
12	After answer Question no 7: Does a National Naming Authority exist in your country? a. Yes b. No	Yes	Single answer
13	If Answer 12.a: What is the structure of the National Names Authority (NNA)? a. Central naming office b. National names committee (board, council, commission, etc.) c. Decentralized naming authority d. Other (fill in the explanation) Description: - Central names office: The authority is solely vested in an existing government office. - National names committee: A geographical names committee that includes sufficient staff support, comprising representatives from various key government offices and possibly non-governmental experts. - Decentralized names authority: A structure to establish standardization and delegates naming authority to the major civil or administrative divisions within the country. proceed to next section (No. 19)	Yes	Single answer

No.	Questions	Mandatory?	Field Type
14	If answer 12.b: What organizations undertake the geographic naming activities in your country? proceed to next section (No. 19)	Yes	Long-text
15	If answer 5d: Do you know how the mapping activities conducted in your country? a. Yes b. No If answer a, proceed to No. 16 If answer b, proceed to No. 17	Yes	Single answer
16	If answer 15.a: What organizations produce the mapping product(s) in your country? proceed to the question no.18	Yes	Long-text
17	If answer 15.b or 16 : Do you know how the geographic naming activities conducted in your country? a. Yes b. No If answer a, proceed to No. 18 If answer b, proceed to Submit Response	Yes	Single answer
18	If answer 18.a: What organizations undertake the geographic naming activities in your country? proceed to next section (No. 19)	Yes	Long-text
	Governance and Institutions		
19	At what level is the relationship between the NMA/mapping activities and NNA/geographic naming activities? a. Technical b. Managerial c. Executive d. Political e. No relationship f. Other (fill in the explanation) Definitions: - Technical: Collaboration without any legal framework. - Managerial: Inter-departmental collaboration within the institution. - Executive: Collaboration among different institutions. - Political: National-level collaboration based on legal arrangements. - Other: Please describe any other form of collaboration in your country. If answer e, proceed to the question No. 65 (Closing)	Yes	Single answer

No.	Questions	Mandatory?	Field Type
20	If answer Question no.19.a-d and f: Describe the roles and responsibilities between NMA/mapping activities and NNA/geographic naming activities. (For example: The NNA collects and standardizes geographical names, while the NMA applies them to the national map)	Yes	Long-text
	Policy and Legal		
21	Do you have policies or legislation that directs or supports collaboration between the NMA/mapping activities or NNA/geographic naming activities? a. Yes, directly b. Yes, indirectly c. No If answer 21.a-b, proceed to No. 22 If answer c, proceed to the question No. 25	Yes	Single answer
22	Please describe the policies or legislation that directs or supports the collaboration between NMA/mapping activities or NNA/geographic naming activities	No	Long-text
23	Do the policies or legislation support the **availability, accessibility**, exchange, application, or management of geographical names or mapping data? a. Yes b. No if answer b, proceed to No. 25	Yes	Long-text
24	If answer 23.a: Please provide more details to your answer.	No	Long-text
25	Are there any Indigenous groups currently residing in your country? a. Yes b. No c. Do not know the answer If answer b-c, proceed to the next section (No. 28)	Yes	Single answer
26	If answer 25.a: Do you have policies or guidelines for engaging with Indigenous groups in mapping or geographic naming activities? a. Yes b. No if answer b, proceed to the next section (No. 28)	Yes	Single answer
27	If answer 26.a Please provide more details to your answer.	No	Long-text
	Financial		
28	What is the primary source of funding for NMA/mapping activities? a. National/Central/Federal government b. Regional/State/Provincial government c. Local government d. Business/ industries e. None f. Prefer not to disclose the information g. Other (list other funding sources)	Yes	Multiple answers

No.	Questions	Mandatory?	Field Type
29	What is the primary source of funding for NNA/geographic naming activities? a. National/Central/Federal government b. Regional/State/Provincial government c. Local government d. Business/ industries e. None f. Prefer not to disclose the information g. Other (list other funding sources)	Yes	Multiple answers
30	How are collaborations between NMA/mapping activities and NNA/geographic naming activities funded? a. Both fund their own activities b. Funding comes from the lead mapping or naming agencies c. Funding comes from a mix of various jurisdictions, including National/Central/Federal, Regional/State/Provincial, and Local levels) d. No funds dedicated for collaborations e. No information	Yes	Single answer
31	What financial challenges do you encounter in sustaining collaborative efforts?	No	Long-text
	Data		
32	Describe the process for integrating geographical names data into national mapping products, and vice-versa.	Yes	Long-text
33	How do you ensure data accuracy and consistency across geographical names and mapping datasets?	No	Long-text
34	How do you resolve discrepancies or conflicts in geographical names data and mapping products?	No	Long-text
35	What metadata standards are utilized to ensure data quality and usability in collaborations between the NMA/mapping activities and NNA/geographic naming activities?	Yes	Long-text
36	Do you have a legal arrangement or policy to ensure consistency of maps or geographical names data with private mapping platforms? a. Yes b. No If answer b, proceed to the next section	Yes	Single Answer
37	If answer 36.a: Please describe the process for ensuring consistency of map products and geographical names data with private mapping platforms in your country.	No	Long-text
	Innovation		
38	What innovative technologies or methodologies enhance collaboration between mapping and geographical naming activities? (example: the use of API for the integration of geographical names data into mapping products)	No	Long-text
39	Can you provide examples of pilot projects or case studies showcasing innovation in your collaborative efforts?	No	Long-text
40	What role does research and development play in the collaboration between the NMA/mapping activities and NNA/geographical naming activities in your country?	No	Long-text

No.	Questions	Mandatory?	Field Type
	Standards		
41	Are national or international standards used in collaborative geographical names and mapping activities? a. Yes b. No If answer b, proceed to No.43	Yes	Single answer
42	If answer 41.a: What national or international standards guide your collaborative geographical names and mapping activities? Proceed to no 44	Yes	Long-text
43	Please explain the challenges due to the lack of standards. Proceed to the next section: Partnerships	Yes	Long-text
44	If answer 42: How do you ensure compliance with these standards? (Example: Giving rewards to the parties that have been implementing the standards)	Yes	Long-text
45	If answer 44: What challenges do you face in implementing and adhering to these standards collaboratively?	Yes	Long-text
	Partnerships		
46	Which group(s) are frequent partners to NMA/mapping activities? a. National level institutions b. Regional/State/Province institutions c. Local governments d. Private industry e. Academia f. Non-profit organizations g. Public h. Other (list other groups) i. No partnership j. Not sure to answer	Yes	Multiple answers
47	Which group(s) are frequent partners to NNA/geographical naming activities? a. National level institutions b. Regional/State/Province institutions c. Local governments d. Private industry e. Academia f. Non-profit organizations g. Public h. Other (list other groups) i. No partnership j. Not sure to answer	Yes	Multiple answers
48	Please list the **specific** frequent partners (e.g.: Ministry of Home Affairs, Statistical Office, Navy, etc.)	No	Long-text

No.	Questions	Mandatory?	Field Type
49	Are Indigenous groups involved in your mapping efforts? a. Yes b. No c. There are no Indigenous groups if answer a, proceed to No. 50 if answer b, proceed to No. 52 if answer c, proceed to No. 55	Yes	Single answer
50	After answer 49.a: How often do you invite Indigenous groups to participate your mapping activities? a. Annually b. Monthly c. Quarterly d. Incidental only e. Other (fill in the explanation) proceed to no 51	No	Single answer
51	Please describe how you engage or consult with Indigenous groups in mapping activities (Example: the involvement of Indigenous groups in boundary mapping) proceed to no 52	No	Long-text
52	Are Indigenous groups involved in your geographical naming efforts? a. Yes b. No if answer a, proceed to No. 53 if answer b, proceed to No. 55	Yes	Single answer
53	If answer 52.a: How often do you invite Indigenous groups to participate your geographic naming activities? a. Annually b. Monthly c. Quarterly d. Incidental only e. Other (fill in the explanation) proceed to no 54	No	Single answer
54	After answer 54: Please describe how you engage or consult with Indigenous groups in geographical naming activities (Example: the involvement of Indigenous groups in restoring original place names from their native languages) proceed to no 55	No	Long-text

No.	Questions	Mandatory?	Field Type
55	What approach(es) do NMA/mapping activities or NNA/geographic naming activities use to involve stakeholders? a. Academic Conferences b. Industry/Trade Conference c. Hosted workshops and webinars d. Websites e. Blogs f. Social media g. Other (fill in the explanation) h. Not sure to answer	Yes	Multiple answers
56	Do the current approaches have an positive impact on building good partnerships with stakeholders? a. Yes b. No c. Not sure to answer	Yes	Single answer
57	Have you implemented any public-private partnerships in geographic naming or mapping activities? a. Yes b. No c. Not sure to answer If answer b-c, proceed to the next section: Capacity and Education	Yes	Single answer
58	If answer 56.a: Please describe your public-private partnership efforts	No	Long-text
	Capacity and Education		
59	Is there any joint capacity-building or education program between the NMA/mapping activities and NNA/geographical naming activities? a. Yes b. No If answer b, proceed to the next section	Yes	Single answer
60	If answer 59.a Please list any joint capacity-building or education programs.	No	Long-text
61	If answer 60: What challenges do you face in building or maintaining your joint program? (if any)	No	Long-text
	Communication and Engagement		
61	Do you have processes in place for public consultation or feedback regarding your NMA/mapping activities? (Example: Using the official map portal to collect public feedback on changes in land use and land cover) a. Yes b. No c. Do not know the answer If answer b,c, proceed to the question No. 62	Yes	Single answer
62	If answer 61.a: Please describe the ways in which you engage with the public (Example: using social media to promote new mapping products)	Yes	Long-text

No.	Questions	Mandatory?	Field Type
63	If answer 62: How do you measure the effectiveness of your communication and engagement efforts related to mapping activities? (Example: through surveys or statistical report from social media engagement)	No	Long-text
64	Do you have processes in place for public consultation and feedback regarding NNA/geographical names activities? (Example: Using the official naming website to collect public feedback before standardizing names) a. Yes b. No c. Do not know the answer If answer b,c, proceed to the next section (No. 66)	Yes	Single answer
65	If answer 64.a: Please describe the ways in which you engage with the public (Example: using social media to promote naming activities)	Yes	Long-text
66	If answer 65: How do you measure the effectiveness of your communication and engagement efforts related to geographical naming activities? (Example: through surveys or statistical report from social media engagement) Proceed to closing no 67	No	Long-text
	Closing		
67	Only if answer 19.e: What are the reasons for the absence of relationship between your NNA/geographical naming activities and NMA/mapping activities? proceed to submit response	Yes	Long-text
68	What benefits have you observed from collaboration between geographical names and mapping activities? a. Avoiding duplication of resources and work effort b. Increased efficiency c. Common understanding of mapping and naming process d. Recognition of resources required e. Updates occur more quickly f. Improved information exchange g. Consolidation of IT architecture h. Other (fill in the explanation)	Yes	Multiple answers
69	Please choose area(s) for improvement in collaboration between the NMA/mapping activities and NNA/geographic naming activities? a. Standards b. Communication c. Redundant products d. Data management e. Information sharing f. Workflows g. Difficulty in public access to information h. No improvement needed i. Other	Yes	Multiple answers

No.	Questions	Mandatory?	Field Type
70	If answer 69.a-g: Please provide more details. Note: If you chose "No improvement needed" or "Other", please fill (-)	Yes	Long-text
71	What practices do you follow that you would like to highlight as Best Practices for others?	No	Long-text
SUBMIT FORM			

Appendix B: Summary Statistics of Survey Responses

NO.	SECTIONS	QUESTIONS	SUMMARY
1	**General Information**	**Do you answer this questionnaire on behalf of? (Closed Question)**	**1. National Mapping Agency: 29 Countries** Albania; Nigeria; Cameroon; Timor-Leste; South Africa; Iceland; Trinidad and Tobago; Senegal; Slovenia; Mexico; Togo; Nigeria; Bulgaria; Belgium; Austria; Kingdom of the Netherlands; Japan; Poland; Philippines; Singapore; Papua New Guinea; Uruguay; Chile; Lao People's Democratic Republic; El Salvador; United Kingdom; Italy; Switzerland; Finland **2. National Mapping Agency (NMA): 14 countries** Papua New Guinea; Sudan; Slovenia; Norway; Burundi; Sweden; Austria; Mauritania; South Africa; Hungary; Cuba; Ecuador; Argentina; New Zealand **3. Both: 21 countries** Cyprus; Colombia; Uganda; Latvia; Norway; United States of America; Germany; Viet Nam; Oman; Sweden; Australia; Slovakia; Saudi Arabia; Morocco; Republic of Moldova; Croatia; Sri Lanka; Russian Federation; Burundi; Canada; Indonesia **4. Others: 9 countries** - Egypt: Central Agency for public mobilization and statistics; - Czechia: Land Survey Office; - Dominican Republic: Instituto Geográfico Nacional "José Joaquín Hungría Morell" (IGN-JJHM); - Chile: Military Geographic Institute of Chile; - Armenia: The Cadastre Committee of the Republic of Armenia - Ukraine: The State Service of Ukraine for Geodesy, Cartography and Cadastre (StateGeoCadastre) - Japan: Committee of Geographical Names, Science Council of Japan - Austria: International Council of Onomastic Sciences (ICOS) - Brazil: BRAZILIAN INSTITUTE OF GEOGRAPHY AND STATISTICS (IBGE)

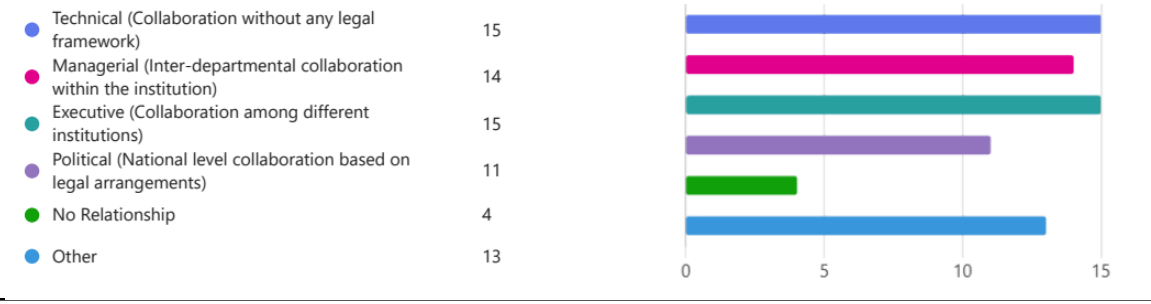
NO.	SECTIONS	QUESTIONS	SUMMARY
2		**What is the structure of the National Names Authority (NNA)? (Closed Question)**	**1. Central names office: 8 countries** Colombia; Norway; Sweden; Germany; Sweden; Republic of Moldova; Ecuador;Indonesia **2. Decentralized names authority: 5 countries** Latvia ; Argentina ; Canada; Timor-Leste; Trinidad and Tobago **3. National names committee (board, council, commission, etc.): 14 countries** Cyprus; Sudan; Slovenia; Hungary; Cuba; Croatia; Sri Lanka; Burundi; New Zealand; Slovenia; Japan; Poland; Papua New Guinea. **4. Others: 5 countries** Part of National Mapping Agency: Oman; Primarily, decentralised naming authorities at the state and territory levels with some federal activities, but no overarching national names authorities Advice and guidance are provided by the Place Names Working Group: Australia; Rosreestr: Russian Federation; This authority is currently being reconstituted: Morocco; National Geographic National create maps and Toponymic Guideline on the maps: Lao People's Democratic Republic
3		**What is the structure of the National Mapping Agency (NMA)? (Closed Question)**	**1. Central mapping office: 54 countries** Cyprus; Albania; Nigeria; Cameroon; Colombia; Uganda; Timor-Leste; Latvia; Norway; Norway; Sweden; South Africa; United States of America; Iceland; Austria; Germany; Trinidad and Tobago; Mauritania; Viet Nam; Senegal; Slovenia; South Africa; Sweden;Togo; Nigeria; Slovakia; Bulgaria; Belgium; Austria; Saudi Arabia; Morocco; Kingdom of the Netherlands; Hungary, Republic of Moldova; Japan; Poland; Philippines; Ecuador; Singapore; Papua New Guinea; Croatia; Sri Lanka ; Argentina; Chile; Lao People's Democratic Republic; Burundi; El Salvador; United Kingdom; Italy; Switzerland; Finland; New Zealand; Indonesia **2. Decentralized mapping authority: 6 countries** Mexico; Sudan; Slovenia; Oman; Australia; Canada **3. National mapping committee (board, council, commission, etc.): 3 countries** Burundi; Cuba; Uruguay **4. Others: 4 countries** central mapping office in a federalised system with the German Länder with shared responsibilities: Germany; Decentralized autonomous cartographic agency of the federal government: Mexico; We do have a national mapping agency as a central mapping office, and our Geospatial National Committee is currently being reconstituted: Morocco. Rosreestr: Russian Federation

NO.	SECTIONS	QUESTIONS	SUMMARY
4		**Does a National Mapping Agency exist in your country? (Closed Question)**	Yes: 9 countries Burundi ; Austria ; Mauritania; South Africa; Hungary; Cuba ; Ecuador; Argentina; New Zealand
5		**What organizations produce the mapping product(s) in your country? (Open Question)**	
6		**Does a National Naming Authority exist in your country? (Closed Question)**	1. No: 15 countries 2. Yes: 7 countries
7		**What is the structure of the National Names Authority (NNA)? (Closed Question)**	**1. Decentralized mapping authority: 2 countries** Timor-Leste; Trinidad and Tobago **2. National names committee (board, council, commission, etc.): 4 countries** Slovenia; Japan; Poland; Papua New Guinea **3. Others: 1 country** Create maps and Toponymic Guidelines on the maps: Lao People's Democratic Republic

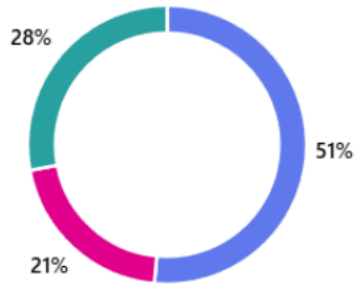
NO.	SECTIONS	QUESTIONS	SUMMARY
8		**What organizations undertake the geographical naming activities in your country? (Open Question)**	**1. National Mapping Agencies / Geospatial Authorities** National Mapping and Resource Information Authority (Philippines); Ordnance Survey (UK); ASIG (Albania); Swiss Federal Office of Topography; IGMI (Italy); IGM (Uruguay, Chile); INEGI (Mexico); National Institute of Cartographie; Singapore Land Authority; General Directorate for Geographic Information and Cartography **2. Statistical and Demographic Institutes** National Institute of Statistics and Economic and Demographic Studies; Philippine Statistics Authority (PSA-PSGC); Instituto Nacional de Estadística (Uruguay) **3. Linguistic and Toponymic Commissions** Royal Commission for Toponymy and Dialectology (Belgium); Institute for the Languages of Finland; National Historical Commission of the Philippines; Dutch Language Union **4. Defense / Military Geographic Institutions** Military Geographic Institute (Chile, Uruguay); Hydrographic and Oceanographic Service of the Chilean Navy **5. Local and Regional Governments** Municipalities (Chile, Belgium, Finland, Uruguay); Swiss Cantonal Commissions; Finnish regional agencies (e.g., Centres for Economic Development, Transport, and the Environment) **6. Thematic Ministries / Government Agencies** Ministry of National Assets (Chile); Undersecretary of Regional and Administrative Development (Chile); National Directorate of Borders and State Limits (Chile); Finnish Transport and Communication Agency
9		**Do you know how the mapping activities conducted in your country? (Closed**	Yes: 4 countries Armenia; Japan; Austria; Brazil

NO.	SECTIONS	QUESTIONS	SUMMARY		
		Question)			
10		**What organizations produce the mapping product(s) in your country? (Open Question)**	1. Armenia: "The basic cartographic layers are created by the Cadastre Committee. Thematic cartographic layers are created by state bodies. Maps are also created by universities, research organizations, and private organizations. 2. Japan: National Geospatial Agency 3. Austria: Federal Office of Metrology and Surveying [Bundesamt für Eich- und Vermessungswesen, BEV] 4. Brazil: Brazilian Institute of Geography and Statistics (IBGE) and Directorate of Geographical Services of the Brazilian Army (DSG)		
11		**Do you know how the geographical naming activities are conducted in your country? (Closed Question)**	Yes: 4 countries Armenia, Japan; Austria; Brazil		
12		**What organizations undertake the geographical naming activities in your country? 2 (Open Question)**	**1. National Mapping Agencies / Geospatial Authorities** - ASIG (Albania) - IGN-JJHM (Dominican Republic) - INEGI (Mexico) - NAMRIA (Philippines) - Ordnance Survey (UK) - Military Geographic Institute (Chile, Uruguay) - StateGeoCadastre & Kartographia (Ukraine) - IBGE (Brazil) - IGMI (Italy) - Federal Office of Topography (Switzerland)	**2. Ministries or Government Departments** - Ministry of National Assets (Chile) - Ministry of National Assets (Uruguay) - Ministry of Education, Ministry of Foreign Affairs (Japan)	**3. Local Governments / Municipalities** - Municipalities (Austria, Netherlands, Japan, Uruguay, Chile) - Local governments (often part of multi-level decision-making processes)

<table>
<tr><th>NO.</th><th>SECTIONS</th><th>QUESTIONS</th><th colspan="3">SUMMARY</th></tr>
<tr><td rowspan="2"></td><td rowspan="2"></td><td rowspan="2"></td><td>4. Language and Cultural Institutions
- Institute for the Languages of Finland
- Agency for Cultural Affairs (Japan)
- Royal Commission for Toponymy and Dialectology (Belgium)
- Dutch Language Union</td><td>5. Scientific / Cartographic Research Institutes
- National Institute of Cartographie (unspecified country)
- The State Scientific and Production Enterprise "Kartographia" (Ukraine)</td><td>6. Inter-Institutional or Multi-Agency Committees
- Joint-committee of National Geospatial Authority and Hydrographic Department (Japan)
- National, Provincial, and Local Names Committees (various countries)
- Mixed Commissions (Chile)</td></tr>
<tr><td colspan="3">7. Sector-Specific Authorities
- Hydrographic and Oceanographic Service of the Navy (Chile)
- Finnish Transport and Communication Agency (Finland)
- Directorate of State Borders and Limits (Chile)</td></tr>
</table>

NO.	SECTIONS	QUESTIONS	SUMMARY
13	Governance and Institutions	At what level is the relationship between the NMA/mapping activities and NNA/geographical naming activities? (Closed Question)	**1. Political Level (National-level collaboration based on legal arrangements)**: 10 countries, including Latvia, Dominican Republic, Slovenia, Chile, Sweden, Iceland, Germany, Croatia, Cuba, and Uruguay. **2. Executive Level (Collaboration among different institutions)**: 12 countries, including Cyprus, Norway, South Africa, Trinidad and Tobago, Austria, Slovenia (also listed under Political), Nigeria (also listed under Technical), Bulgaria, Papua New Guinea (also listed under Technical), Argentina, Chile (also listed under Political, and Burundi. **3. Managerial Level (Inter-departmental collaboration within the same institution)**: 13 countries, including Albania, Czechia, Uganda, Viet Nam, Oman, Mexico, Slovakia, Hungary, Brazil, El Salvador, New Zealand, Indonesia, and Australia (at state/territory level). **4. Technical Level (Collaboration without any legal framework)**: 16 countries, including Nigeria, Colombia, Papua New Guinea, Timor-Leste, Burundi, Ukraine, Austria, Mauritania, Kingdom of the Netherlands, Belgium, Japan, Philippines, Ecuador, Sri Lanka, Togo, and Italy (but with a legal framework). **5. Other/Unique Situations**: - Armenia: Both mapping and naming are under one agency (Cadastre Committee). - United States: Integrated structure with program managers coordinating both activities. - Russian Federation: Combination of Technical, Managerial, and Executive levels. - Australia: Mixed—Managerial at state/territory level, Technical at federal level. - Singapore: All activities are within one government agency. - Canada, Finland, Switzerland, UK: No formal NNA or naming authority. - Japan: Reported both “No Relationship” and “Technical”. **6. No Relationship**: 6 countries, including Japan, Senegal, Morocco, the Republic of Moldova, the United Kingdom, and Switzerland. 

14		**Describe the roles and responsibilities between NMA/mapping activities and NNA/geographical naming activities. (Open Question)**	**1. General Patterns** - Most Common Model: The NNA collects and standardizes geographical names, and the NMA applies them to national maps. - Integrated Model: In some countries, NNA and NMA are part of the same institution, allowing tight integration (e.g., New Zealand, Canada, Chile, South Africa, Indonesia). - Advisory or Coordinated Models: In some cases, NNAs function as advisory bodies, while NMAs retain decision-making powers (e.g., Sweden, Finland, Austria). - Multilevel Governance: Some nations (e.g., Germany, Canada, the Netherlands) involve regional/local authorities or language/academic institutions in standardization or validation. **2. Regional Observations** **2a. Europe** - Standard division of responsibilities: NNA standardizes; NMA maps (e.g., Austria, Poland, Ukraine, Czechia, Slovakia, Bulgaria, Norway, Slovenia). - Language institutions often involved: In Latvia, Finland, and Belgium, linguistic authorities help validate names. - Joint committees common: Examples include Germany's StAGN, Austria's AKO, and Switzerland's regional model. **2b. Africa** - Emerging systems: Some countries like Cameroon, Burundi, Uganda, and Nigeria show active development in GN standardization projects. - Strong role of NMAs: In Uganda, Sudan, and Nigeria, NMAs often carry out both collection and application functions. - Multisector collaboration: Burundi involves technical and steering committees, while South Africa and Togo involve ministries. **2c. America** - Split responsibility model: Common in Colombia, Ecuador, the United States of America, Argentina, and Brazil, where NNAs standardize and NMAs apply. - Integrated systems: Uruguay and Chile show military mapping agencies handling both GN and cartography. - Advisory councils or decrees guide GN in places like El Salvador and the Dominican Republic. **2d. Asia and Oceania** - Integrated systems: In New Zealand and Indonesia, both GN and mapping are coordinated within a single government structure. - Legal frameworks: Countries like Viet Nam, Timor-Leste, Lao People's Democratic Republic have laws governing naming. - Japan and Korea show inter-agency collaboration, with GN data shared across departments. **3. Countries without Formal NNA**

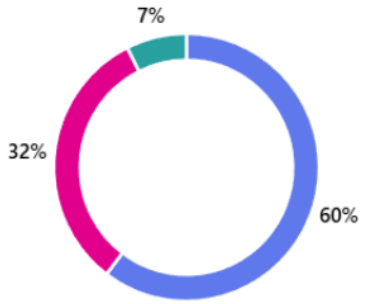
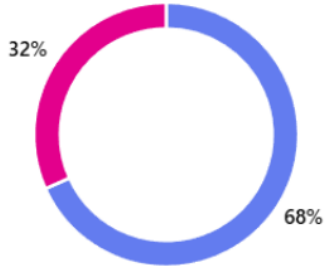
NO.	SECTIONS	QUESTIONS	SUMMARY
			- United Kingdom: Ordnance Survey's map names are *de facto* standard. - Switzerland: No formal NNA; naming decisions are often taken at the canton level. - El Salvador: No dedicated body; municipalities and ministries collaborate. - Senegal, Morocco: No clear data provided. **4. Common Features** - Standardization Focus: Most NNAs focus on linguistic correctness, transcription, and consistency. - NMA Role: Almost universally responsible for applying names to maps, producing base maps, and maintaining topographic datasets. - Legal & Regulatory Tools: Some countries use laws, decrees, gazetteers, or advisory boards to regulate GN.
15	**Policy and Legal**	**Do you have policies or legislation that directs or supports collaboration between the NMA/mapping activities or NNA/geographical naming activities? (Closed Question)**	**1. Yes, Directly: 35 countries** Cyprus ; Colombia; Czechia; Papua New Guinea; Uganda; Sudan; Latvia; Dominican Republic; Slovenia; Chile; Norway; Burundi; Norway; Sweden; United States of America; Iceland; Mauritania; Austria; Viet Nam; Slovenia; Sweden; Mexico; Nigeria; Slovakia; Bulgaria; Cuba; Ecuador; Croatia; Sri Lanka, Russian Federation; Lao People's Democratic Republic; Canada United Kingdom; Switzerland; New Zealand **2. Yes, Indirectly: 14 countries** **3. No: 19 countries** Yes, Directly 35 Yes, Indirectly 14 No 19 

<table>
<tr><th>NO.</th><th>SECTIONS</th><th>QUESTIONS</th><th colspan="3">SUMMARY</th></tr>
<tr><td rowspan="3">16</td><td rowspan="3"></td><td rowspan="3">Please describe the policies or legislation that directs or supports the collaboration between NMA/mapping activities or NNA/geographical naming activities (Open Question)</td><td>1. Primary Legislation (Laws and Acts)
Indonesia: Law No. 4 of 2011 on Geospatial Information
Philippines: Republic Act No. 11961 on cultural mapping
Russian Federation: Federal Law No. 152-FZ "On Geographical Names"
Iceland: Place Name Act of 1991
South Africa: South African Geographical Names Council Act, 1998
United States of America: U.S. Public Law 80-242 & Geospatial Data Act of 2018</td><td>2. Government Regulations & Decrees
Indonesia: Government Regulation No. 2 of 2021 on Geographical Names Standardization
Dominican Republic: Regl. núm. 695-22 governing the Geographic Institute
Lao People’s Democratic Republic: Law on Surveying and Mapping (2021)
Cyprus: Law 71(I)/2013 obliging NMA to adopt standardized names from NNA</td><td>3. Institutional & Administrative Orders
Canada: Order in Council for the Geographical Names Board of Canada
Cameroon: Decree No. 100/071 (2020) establishing the Steering Committee
Finland: Ministries follow advisory orders to consult language experts
Timor-Leste: Steering committees under ministerial orders</td></tr>
<tr><td>4. Sectoral or Related Laws
Philippines: IPRA (Indigenous Peoples’ Rights Act), Cultural Heritage Act
New Zealand: Treaty of Waitangi settlements, National Parks Act
Finland: Act on the Institute for the Languages of Finland</td><td>5. National Policies and Frameworks
Ecuador: National Geospatial Information Policy (CONAGE)
Saudi Arabia: National Geospatial Data Governance Framework
UK (Ordnance Survey): Names Policy
Lao People’s Democratic Republic: Toponymic Guidelines</td><td>6. Technical Standards and Procedures
Bulgaria: Ordinances on transliteration and spelling
Mexico: INEGI's internal regulations
Viet Nam: Technical regulations for mapping and naming</td></tr>
<tr><td colspan="3">7. Cooperative Agreements or Memoranda
Indonesia: MoU defines collaboration within NNA
New Zealand: Agreement between LINZ and NZ Geographic Board</td></tr>
</table>

NO.	SECTIONS	QUESTIONS	SUMMARY
17		**Do the policies or legislation support the availability, accessibility, exchange, application, or management of geographical names or mapping data? (Closed Question)**	**1. Yes: 42 countries** Cyprus ; Colombia ; Czechia ; Papua New Guinea; Sudan;Timor-Leste; Latvia; Dominican Republic; Slovenia; Norway; Burundi; Armenia;Norway; Sweden; Ukraine; South Africa; United States of America; Iceland; Germany;Mauritania; Austria; Viet Nam; Slovenia; South Africa; Sweden; Mexico; Nigeria; Slovakia; Bulgaria; Cuba; Poland; Philippines; Ecuador; Croatia; Sri Lanka; Russian Federation; Lao People's Democratic Republic; Burundi; Canada; United Kingdom; Finland; New Zealand **2. No: 7 countries** Uganda; Chile; Togo; Austria; Saudi Arabia; Switzerland; Indonesia 

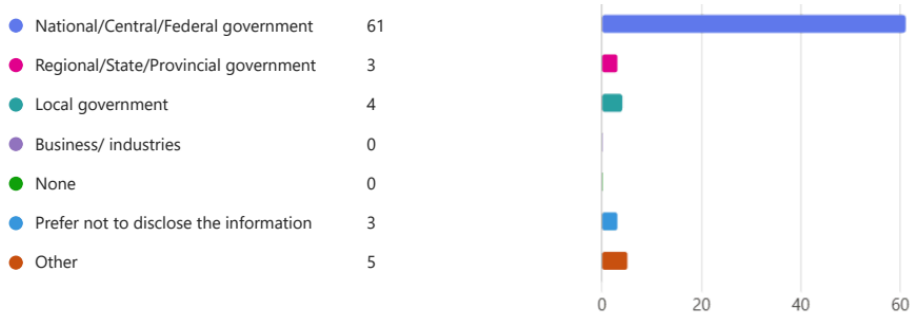
18		**Please provide more details to your answer (Open Question)**	**1. Availability & Accessibility of Geographical Names and Mapping Data** These countries or authorities make data freely available to the public, often via online portals or web services: - Austria – Topographic maps and place name databases are available byopen access. - Poland – National Geoportal provides free data in multiple formats (.shp, .xls, .gml). - Norway – Kartverket keeps a central register updated and accessible via web services. - Iceland – The National place names database is publicly accessible with no usage restrictions. - Finland – Datasets shared openly under the Act on the Openness of Government Activities. - New Zealand – NZGB Act 2008 mandates an online Gazetteer; data layers are open and downloadable. - South Africa – SAGNC database is publicly accessible for name changes and standardization. - United States of America – Geospatial Data Act mandates open, machine-readable formats. - Viet Nam – Regulations mandate standardized names for official cartographic use. - Canada – Policies support open data via federal Geospatial Accord and Data Strategy. - Dominican Republic – Data available freely in vector format on the website. - Latvia – Law requires a place name database, managed by LGIA and publicly accessible. - Philippines – RA No. 7160 & 11961 support open use of standardized geographic data. - Ecuador – Legislation supports open access to geospatial data via the SNI website. - Burundi – Collaborative committees manage harmonized standardization. - Croatia – Topographic/geodetic data available free via web per NSDI Act. - Slovenia – Circulars enforce standardized geographical names for all public use. **2. Exchange and Interagency Collaboration** - Legislation or policy frameworks promote information sharing between institutions: - ICDE (General) – Protocols for state-sector data exchange. - Canada – NNA/NMA coordinate through agreements and federal policies. - Burundi – Committees include ministries and coordinate across sectors. - South Africa – Coordination between SAGNC and CD:NGI; data updates follow processing. - New Zealand – Gazetteer data differs from NMA data, but both are available and complement each other. - Germany – GeoInfoDok framework manages integration of geographical names within geoinformation systems. **3. Legal Basis for Standardization and Use in Governance** These examples highlight how legal frameworks mandate or formalize the use of standardized names in official functions: - Nigeria – Place Names Act 1965 and Survey Coordination Act 1969; Surveyor General chairs naming committee. - South Africa – SAGNC Act mandates local/provincial naming structures and community participation. - Norway – Legally required national register; municipalities must provide data upon request. - Latvia – Geospatial Information Law mandates LGIA to manage the national place name system.

NO.	SECTIONS	QUESTIONS	SUMMARY
			- Viet Nam – National standardization aligned with UNGEGN principles; mandates use in legal documents. - United States of America – Public Law 80-242 and the Geospatial Data Act govern name management and open data sharing. - Iceland – Legal responsibility lies with NMA and Árni Magnússon Institute for maintaining databases - Finland – The National Land Survey is legally responsible for the geographic names register. - Philippines – Local ordinances for naming; indigenous names protected under law. - Poland – Geodetic and Cartographic Law requires the availability and management of geographical names. - Dominican Republic – Law and regulations define the roles of IGNE and its database. - Viet Nam & Ecuador – National policies directly enforce consistent naming for mapping and public use. **4. Centralized Management and Data Governance** Countries where a centralized authority or body is legally assigned to manage names and maps: - Austria – Federal Office manages both large-scale maps and a feature name database. - Latvia – LGIA manages the national information system of place names. - Norway – Kartverket maintains the national register. - South Africa – CD:NGI manages 1:50,000 map data; SAGNC handles name changes. - Finland – National Land Survey handles topographic data and naming database. - Germany – GeoInfoDok integrates name management with geospatial data. - Canada – Natural Resources Canada, NMA/NNA have defined roles with territorial coordination. - Iceland – Names managed by NMA and a linguistic institute jointly. - Philippines – LGUs name public spaces but use standardized formats. - Viet Nam – National authorities and local governments have roles in compliance. **5. Historical and Cartographic Integration** Data and names are derived from long-term cartographic or historical records: - Austria – Names include those too small for official maps but still catalogued. - Norway – Historical evidence is included in database entries. - South Africa – Research on historical names supports standardization. - Sudan – Legacy maps from 1909–1936 form the basis of national toponymy.

NO.	SECTIONS	QUESTIONS	SUMMARY
19		**Are there any Indigenous groups currently residing in your country? (Closed Question)**	1. Do not know the answer: 5 countries 2. No: 22 countries 3. Yes: 41 countries Yes 41 No 22 Do not know the answer 5 
20		**Do you have policies or guidelines for engaging with Indigenous groups in mapping or geographical naming activities? (Closed Question)**	1. No: 13 countries 2. Yes: 28 countries Yes 28 No 13 

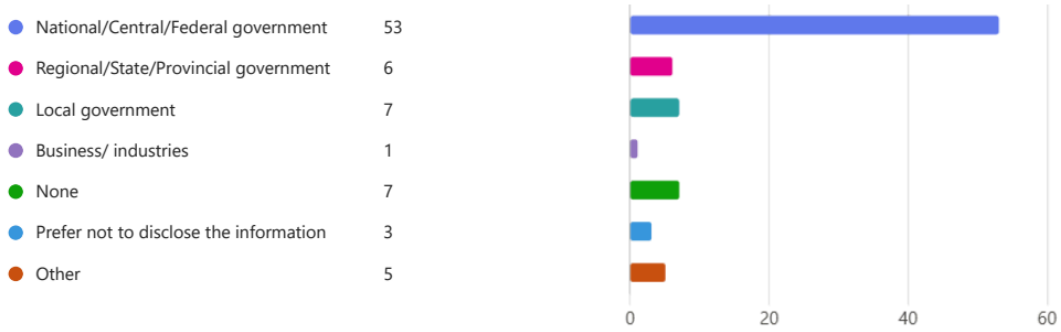
21		**Please provide more details to your answer2 (Open Question)**	**1. Legal or Constitutional Guarantees for Indigenous Participation** These countries have laws or constitutional provisions that explicitly mandate Indigenous involvement: - Philippines – RA No. 8371: - Section 7: Right to identify and manage ancestral lands. - Section 16: Must be consulted in any relevant policy/program. - Section 59: Requires Free, Prior, and Informed Consent (FPIC). - Ukraine – Guided by the Law "About national minorities (communities)" for engagement in mapping/naming. - Latvia – Legal mandate: Livonian and Latgalian names must be preserved and used where applicable; State ensures protection and development of minority languages. - Germany – Sorbian law (Saxony, Brandenburg): Protects naming rights of Sorbian communities; Minority rights anchored in state constitutions (e.g., Saxony, Lower Saxony). - Norway – Place Name Act (1991) applies to Sámi and Kven populations; Sámediggi (Sámi Parliament) is a formal referral body; Supported by NNA for name standardization in Sámi and Meänkieli. - Canada – Indigenous participation guided by: OCAP principles (Ownership, Control, Access, Possession); Constitutional recognition of Indigenous rights; National and provincial guidelines; Three Indigenous Advisors appointed to NNA. - South Africa – Legislation mandates community consultation; Local Geographical Names Committees (LGNCs) must include all demographics. **2. Institutional or Operational Guidelines for Engagement** These are operational practices or protocols that guide how Indigenous groups are involved, even if not fully codified in law: - New Zealand – NZGB has multiple formal documents: Māori Language Plan; Strategic Plan 2020–2025; Protocols for proposals - Finland – Multiple Saami names can appear on maps (e.g., Inari has 5 variants); Verification by Saami language specialists in cooperation with locals; Institute for Languages of Finland recommends bilingual naming in Saami areas - UK (Ordnance Survey) – Welsh and Gaelic Names Policies to support linguistic representation; Welsh Names Policy; Gaelic Names Policy - Australia – NNA provides guidance in national principles document; NMA (mapping agency): National policy still under development; Indigenous participation included in proposal evaluation. - Russian Federation (Rosreestr) – Engages Indigenous communities in naming and mapping exercises; - Indonesia (BIG Regulation No.12 of 2017) – Official guideline for mapping Indigenous community areas, including stakeholder consultation. **3. Community-Based or Field-Level Practices**

NO.	SECTIONS	QUESTIONS	SUMMARY
			These examples focus on practical procedures for engaging Indigenous communities on the ground: - Uganda (implied) – All geographical name surveys require local engagement; Draft maps shown to local areas for spell-checking and verification; Community always consulted, especially during mapping. - South Africa – Local, Provincial, and National Name Committees engage communities directly; Committees include heritage and language bodies. - United States of America – Recognized tribes are offered consultation on NNA/NMA activities; Respect for tribal autonomy in naming decisions. - Finland (again) – Local inhabitants consulted directly for verification; Community name variants are all acknowledged. - Cyprus – Name proposals must come from Indigenous/local groups; Stakeholder engagement is standard practice during collection. - Canada (again) – Sub-national bodies also follow tailored engagement practices; Draft guidelines exist for Indigenous naming best practices. **4. Multilingual or Multinomial Naming Policies** Some policies ensure multiple local/Indigenous languages are reflected in official place names: - Finland – Maps may include multiple name versions (e.g., Finnish, Swedish, and three Sámi dialects). - Latvia – Names in Livonian and Latgalian must be created according to language norms. - UK – Welsh and Gaelic naming policies ensure bilingual/multilingual representation. - New Zealand – Names can exist in Māori and English; naming standards apply. - Germany – Sorbian names used in Saxony and Brandenburg; dual naming supported by law.

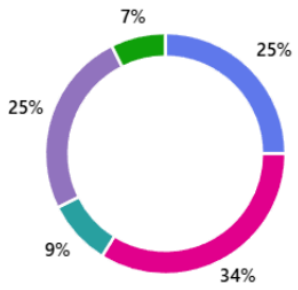
22	**Financial**	**What is the primary source of funding for NMA/mapping activities? (Closed Question)**	**1. Countries with Only National/Central/Federal Government Involvement (The majority fall into this category)** - Africa: Nigeria, Cameroon, Uganda, Burundi, Mauritania, Togo, South Africa, Senegal (assumed), Sudan (also includes local), etc. - Europe: Cyprus, Albania, Czechia, Latvia, Slovenia, Norway, Sweden, Ukraine, Iceland, Austria, Germany, Slovakia, Bulgaria, Belgium, Hungary, Poland, Croatia, Italy, Switzerland, Finland. - Asia: Armenia, Oman, Viet Nam, Japan (listed once as "no data" and once with national), Philippines, Sri Lanka, Singapore. - Americas: United States, Dominican Republic (also includes international), Trinidad and Tobago, Mexico, El Salvador, Brazil, United Kingdom, Chile. - Oceania: Papua New Guinea, New Zealand. **2. Countries with Multi-Level Government Involvement (National + Regional/Local)** - Colombia: National + Regional + Local - Cuba: National + Regional + Local - Indonesia: National + Regional + Local - Sudan: National + Local - Canada: Funding comes from a mix of various jurisdictions, including National, Regional/Provincial, and Local levels **3. Countries Reporting Other or Unusual Categories** - Chile: "Self-financing, Defense and Ministry of the Interior" (unclear structure) - Ecuador: "Fondo institucional del IGM" (Institutional fund) - Canada: "Other, see answer below" - Australia: "Prefer not to disclose" - Russian Federation, Argentina: "Prefer not to disclose" - Lao People's Democratic Republic: "Foreign assistance" - Dominican Republic: Also includes International Cooperation **4. Countries with No Data Provided** - Egypt - Japan (mentioned twice, once as "no data", once with national) - Morocco - Republic of Moldova - Senegal **5. Duplicates/Repeated Entries Noted** 

NO.	SECTIONS	QUESTIONS	SUMMARY
			- Austria: Appears 3 times - Norway, Slovenia, South Africa, Sweden, Nigeria, Papua New Guinea, Japan, Chile, Burundi: Each appears more than once, mostly consistently

23		**What is the primary source of funding for NNA/geographical naming activities? (Closed Question)**	**1. Countries with Only National/Central/Federal Government Involvement (The majority fall into this category)** - Africa: Nigeria, Uganda, Timor-Leste, Mauritania, Togo, Burundi, South Africa - Europe: Cyprus, Czechia, Latvia, Slovenia, Norway, Sweden, Ukraine, Iceland, Germany, Slovakia, Poland, Croatia, Armenia, Italy - Asia: Viet Nam, Oman, Philippines, Sri Lanka, Singapore, Lao People's Democratic Republic, Japan - Americas: United States, Dominican Republic (also listed with international cooperation), Mexico, Trinidad and Tobago, El Salvador, Chile (see also duplicate note), Brazil, Uruguay - Oceania: Papua New Guinea, New Zealand **2. Countries with Multi-Level Government Involvement (National + Regional/Local)** - Colombia: National + Regional + Local - Cuba: National + Regional + Local - Indonesia: National + Regional + Local - Finland: National + Regional + Local - Canada: Funding from National, Provincial/Regional, and Local levels - Kingdom of the Netherlands: National + Local - Bulgaria: National + Local - Sudan: National + Local, plus donor support (e.g., UN) **3. Countries Reporting Other or Unusual Categories** - Ecuador: Fondo institucional del IGM (Institutional Fund) - Dominican Republic: Includes International Cooperation (in addition to National) - Saudi Arabia: National + Business/Industry sources - Australia: Prefer not to disclose - Russian Federation: Prefer not to disclose - Argentina: Prefer not to disclose **4. Countries with No Data Provided** - Egypt - Japan (one entry had no data; another listed National funding) - Morocco - Republic of Moldova - Senegal **5. Duplicates/Repeated Entries Noted**

NO.	SECTIONS	QUESTIONS	SUMMARY
			- Austria – Listed three times, all as "None" - Chile – Listed both as "None" and as National - Norway – Listed twice; both indicate National - Sweden – Listed twice; both indicate National - Slovenia – Listed twice; both indicate National - South Africa – Listed twice; both indicate National - Nigeria – Listed twice; both indicate National - Papua New Guinea – Listed twice; both indicate National - Japan – Listed twice; one with no data, one with National - Austria – Listed multiple times as None 

NO.	SECTIONS	QUESTIONS	SUMMARY
24		**How are collaborations between NMA/mapping activities and NNA/geographical naming activities funded? (Closed Question)**	**1. Countries with Only National/Central/Federal Government or Lead Agency Involvement (Funding comes from lead mapping or naming agencies):** Nigeria, Colombia, Czechia, Uganda, Dominican Republic, Slovenia, Germany, Austria, Viet Nam, Oman, Mexico, Belgium, Saudi Arabia, Cuba, Ecuador, Singapore, Croatia, United Kingdom, Italy, and Finland. **2. Countries with Multi-Level Government Involvement (Funding comes from a mix of national, regional, and local jurisdictions):** Burundi, South Africa, Australia, Slovakia, and Canada. **3. Countries Reporting Shared or Split Responsibility (Each agency funds its own activities):** Cyprus, Timor-Leste, Latvia, Norway, Armenia, Sweden, Iceland, Trinidad and Tobago, Japan, Poland, Philippines, Papua New Guinea, Uruguay, Lao People's Democratic Republic, and Burundi. **4. Countries Reporting No Dedicated Funding for Collaborations:** Albania, Cameroon, Papua New Guinea (also reported shared funding), Sudan, Chile, Austria (also listed in lead agency category — duplicate), Togo, Bulgaria, Kingdom of the Netherlands, Hungary, Sri Lanka, Argentina, Brazil, New Zealand, and Indonesia. **5. Countries with No Data Provided or Stated as "No Information":** Egypt, Japan (also listed under shared funding — duplicate), Mauritania, Senegal, Morocco, Republic of Moldova, Russian Federation, El Salvador, and Switzerland. **6. Duplicates/Repeated Entries Noted** - Norway and Austria appeared more than once - Nigeria, Papua New Guinea, Chile, Sweden, South Africa, Japan, and Slovenia also appear multiple times; In these cases, all relevant entries were considered and categorized accordingly.

NO.	SECTIONS	QUESTIONS	SUMMARY
			Both fund their own activities 17 Funding comes from the lead mapping or naming agencies 23 Funding comes from a mix of various jurisdictions, including National/Central/Federal,... 6 No funds dedicated for collaborations 17 No information 5 

25		**What financial challenges do you encounter in sustaining collaborative efforts? (Open Question)**	**1. Countries Reporting Insufficient or No Dedicated Funding** - No Dedicated or Insufficient Funding: Albania, Cameroon, Papua New Guinea, Uganda, Chile, Austria, Argentina, New Zealand, Nigeria, Indonesia, Czechia, Burundi, Hungary, Sri Lanka, Cuba, Ecuador, El Salvador, Brazil, Lao People's Democratic Republic. - Inactive/Minimal Activities Due to Lack of Funding: Papua New Guinea, Cameroon. - Collaboration is done using Regular Operational Budgets (not additional funds): Chile, Canada **2. Countries with Budget Allocation Difficulties or Bureaucratic Barriers** - South Africa – Provincial allocations vary; national influence limited - Sweden, Singapore – Government-funded but with strict justifications - Philippines – Dependent on approved budget and shifting priorities - Indonesia – NNA not part of national priorities; fragmented budgeting - Slovenia, Poland – Joint tasks complicated by separate funding streams - Latvia – Funding depends on expert body support - Germany – Focus is more on georeferencing than toponymy - Mauritania – Calls for unified financial support due to interconnected work - Timor-Leste – Budget allocation not distributed properly - Japan, Austria (repeated) – Experts participate voluntarily or at institutional cost **3. Countries Facing Low Political/Institutional Prioritization** - Low Awareness or Political Will: Trinidad and Tobago, Ecuador, Indonesia, El Salvador, South Africa, Germany, Czechia. - Not Recognized as a Core Activity: Ukraine, Indonesia. - Activity "Relegated to Second Place": Togo. **4. Countries with Stable or Functional Funding Arrangements** - Belgium – Funded through a dedicated NGI budget - Croatia – Currently balanced - Slovakia – No financial challenges - Mexico – No challenges; work done within one institution - Iceland, Uruguay, Poland, Finland, Sweden – Mentioned with neutral or low concern **5. Countries Highlighting Specific Needs or Recommendations** - Australia – Lacks national geospatial legislation or policy for funding continuity - Indonesia – Calls for cost-benefit analysis and better awareness

NO.	SECTIONS	QUESTIONS	SUMMARY
			- Saudi Arabia – Emphasizes need for sustainable, tech-ready, capacity-building funding - South Africa – Suggests top-down approach to budgeting - Austria, Japan, Hungary – Suggest reliance on voluntary participation isn't sustainable **6. Countries with No Responses**: Egypt, Armenia, Japan (also listed), Senegal, Morocco, Republic of Moldova, Russian Federation, United States of America, United Kingdom, Switzerland **7. Repeated Entries/Duplicates** - Austria – Mentioned three times - Sweden, Nigeria, South Africa, Chile, Papua New Guinea, Norway, Japan, Slovenia, Burundi – Mentioned more than once with some variation in detail

26	**Data**	**Describe the process for integrating geographical names data into national mapping products, and vice-versa (Open Question)**	**1. Common Integration Processes: Standard Workflow** Many countries follow a similar basic process: - Collection of geographical names from field surveys, local sources, historical records, or public submissions. - Validation & Standardization through official naming committees, agencies, or linguistic institutions. - Database Integration into a centralized GIS or spatial data infrastructure. - Use in Mapping Products, such as topographic maps, atlases, or digital platforms. Countries following this model include: Cyprus, Nigeria, Papua New Guinea, Uganda, Burundi, Sweden, United States of America, Austria, Slovenia, Viet Nam, Czechia, Colombia, Latvia, Germany, Iceland, Oman, Hungary, Cuba, Poland, Philippines, Ecuador, Lao People's Democratic Republic, Burundi, Canada, El Salvador, Brazil, United Kingdom, Switzerland, Finland. **2. Use of Centralized Databases** Countries like Latvia, Sweden, Germany, United States of America, Austria, Slovenia, Netherlands, Poland, Ecuador, Croatia, Russian Federation, Argentina, Lao People's Democratic Republic, Canada, El Salvador, Brazil, Italy, Switzerland, Finland, New Zealand maintain central registers or databases that serve both mapping authorities and naming authorities.These databases are often linked with address registers or other national systems to ensure consistency. **3. Interagency Collaboration** **-** Cyprus, Armenia, Mauritania, South Africa, Austria, Cameroon, Saudi Arabia, United Kingdom describe active collaboration between the National Mapping Authority (NMA) and the National Naming Authority (NNA) or equivalent institutions. - However, in South Africa and Chile, there's a lag or disconnect between NMA and NNA processes. - Chile has data from different institutions at the national level. These data are used as part of the study to determine and update geographical names. **4. Public Participation and Local Sources** - Several countries collect names directly from communities or local sources: Nigeria, Austria, Cameroon, South Africa, Iceland, Japan,. - Cameroon deals with complexities like multiple names for one locality and vice versa. **5. Digital Tools and Open Data Platforms** - Armenia has developed a GeoPortal and "geographical object passports" for public access. - The United States of America and Germany emphasize web services and digital vector data integration. - Sudan is planning an open and free database for all users. **6. Approval Before Mapping**

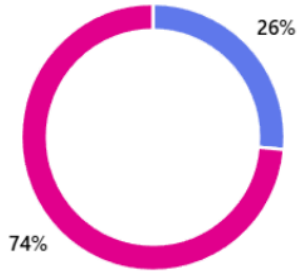
NO.	SECTIONS	QUESTIONS	SUMMARY
			- Some countries prohibit mapping names unless officially approved: Papua New Guinea, Trinidad and Tobago, Latvia, Viet Nam. **7. Technical Implementation** **-** Norway uses automated updates triggered by change detection. - Sweden, Oman describe integration via GIS layers with technical specifications. - The Dominican Republic is working toward automated processes for integrating names into maps. - Singapore works with relevant government agencies that develop new towns and infrastructures. - Indonesia's process is primarily manual with plans to automate in the future. **8. Unique or Advanced Approaches** **-** Armenia stands out for creating detailed "passports" for each geographical feature, with multimedia info and integration into a national portal. - Cameroon includes historical sources and administrative approval, emphasizing data richness and accuracy.

27		**How do you ensure data accuracy and consistency across geographical names and mapping datasets? (Open Question)**	**1. Use of Official Standards and Frameworks** Many countries ensure consistency by adhering to national or international standards (e.g., ISO 19112, UN recommendations, cartographic standards): Cyprus, Burundi, Czechia, Sweden, Austria, Germany, Dominican Republic, Oman, Lao People's Democratic Republic. **2. Centralized or Coordinated Systems** - Accuracy is managed through consistent data environments, shared sources, or synchronized databases: Norway, Czechia, Sweden, Germany, United States of America, Slovenia, Saudi Arabia. Poland, Ecuador. Singapore, Croatia, Russian Federation, Uruguay, Chile, Canada, Switzerland, Finland, New Zealand, Indonesia - The United States of America also uses nightly syncs and multiple QA/QC layers during updates and cartographic production. - Saudi Arabia combines standards, technology, collaboration, and governance. **3. Dedicated Teams or Divisions** - Several countries have dedicated units or expert teams handling data accuracy and toponymic verification: Albania (standardization sector), Latvia (Laboratory of Toponymy), Burundi, Trinidad and Tobago, Burundi, United Kingdom. **4. Ground-Truthing and Community Involvement** - Countries rely on local knowledge, community feedback, or in-person field verification to validate place names: Nigeria, Cameroon, Colombia, Uganda, Iceland, South Africa, Philippines, Trinidad and Tobago, Mauritania, Netherlands, Philippines, El Salvador, Italy. - Uganda and South Africa conduct public reviews and on-the-ground data collection. - Cameroon and Iceland involve village elders or locals to confirm names. **5. Technology & GIS Tools** - Use of GIS software, spatial validation tools, and standard datum frameworks for ensuring spatial accuracy: Burundi, Papua New Guinea, Oman, Armenia, United States of America, Saudi Arabia, Argentina. - Papua New Guinea standardizes data in WGS 84 Datum. **6. Use of Historical and Authoritative Sources** Countries ensure accuracy by referencing historical maps/documents or government archives: Cameroon, Sudan, Chile, Burundi, Colombia, Austria, Sri Lanka, and Italy. **7. Quality Control Procedures** Many implement internal QA/QC or regular audits: the United States of America, Burundi, the Dominican Republic, Albania, Trinidad and Tobago, Germany, and Saudi Arabia.

28		**How do you resolve discrepancies or conflicts in geographical names data and mapping products? (Open Question)**	**1. Use of Official Standards and Gazetteers** Most countries rely on official gazetteers or registers as the authoritative source to resolve name conflicts: Cyprus, Papua New Guinea, Ukraine, Norway, Czechia, Nigeria, Colombia, Viet Nam, Croatia, Russian Federation, Uruguay, Lao People's Democratic Republic, El Salvador Example: - Ukraine mandates names in the State Register of Geographical Names for official use. - Papua New Guinea cross-checks names with the National Place Name Gazette and satellite imagery. **2. Collaboration Between Agencies** **N**MA and NNA work together, often with committees or commissions for decision-making: Austria, Germany, Slovenia, South Africa, Trinidad and Tobago, Saudi Arabia, Argentina, Chile, Italy, New Zealand Example: - Austria and Germany resolve issues via consultation between federal and provincial bodies. - Saudi Arabia relies on a robust data governance framework. **3. Field Verification & Local Involvement** Conflicts are resolved by consulting local communities, authorities, or field investigations: Nigeria, Cameroon, Colombia, Timor-Leste, Iceland, Dominican Republic, Burundi, Trinidad and Tobago, Philippines, Ecuador, Sri Lanka Example: - Iceland consults experts from the Arni Magnusson Institute. - Burundi involves residents, local governments, and experts. **4. Legal or Regulatory Guidance** Countries follow national laws, language regulations, or name standardization guidelines: Sweden, Latvia, United States of America, Dominican Republic, Oman Example: Sweden uses Good Place-name Practice legislation; citizens can appeal or request name changes. **5. Dedicated Committees or Expert Bodies** Several countries have standardization committees or name boards that rule on conflicts: United States of America (Board on Geographic Names), Burundi (Toponymy Commission), Austria (Name Commissions) **6. No Conflicts Reported** Albania, Mauritania, Norway, South Africa, Czechia, Viet Nam, Singapore, Canada, Indonesia **7. Internal review** Netherlands, Hungary, Cuba - Netherlands has no national names authority and of national standardization rules and regulations for geographical names

NO.	SECTIONS	QUESTIONS	SUMMARY
			- Hungary no comprehensive solution

29		**What metadata standards are utilized to ensure data quality and usability in collaborations between the NMA/mapping activities and NNA/geographical naming activities? (Open Question)**	**1. Widespread Use of International Standards** - ISO 19115 for geospatial metadata: Albania, Nigeria, Cameroon, Colombia, Chile, Burundi, Dominican Republic, Germany, Trinidad & Tobago, Oman, Czechia, Austria, Latvia, Saudi Arabia, Philippines, Poland, Ecuador, Sri Lanka, Uruguay, Chile, Canada, El Salvador, United Kingdom, Finland, New Zealand - ISO 19112 for geographical names management is also referenced. Specifically mentioned by: Burundi, Oman, Ecuador, Poland - ISO 19157: Saudi Arabia - ISO 19139: Poland, Uruguay, Indonesia - OGC: Poland - Use international standards (not specified): Cuba, Singapore **2. INSPIRE Directive & European Compliance** - INSPIRE standards (EU-wide geospatial data directive) are commonly adopted by European countries: Cyprus, Latvia, Austria, Slovenia, Czechia, Germany, Croatia, Italy, Finland. These often include: EN ISO 19115, 19119, 19139 - EU regulations such as Commission Regulation No. 1205/2008 and No. 1089/2010 - National metadata profiles (e.g., Czechia's Version 4.2) **3. National Standards** **-** Norway: SOSI-standard - Armenia: National standard on geospatial metadata - Ukraine: National metadata requirements for geoinformation infrastructure - Iceland: Publishes metadata through a national platform **4. UNGEGN & Language/Naming Standards** - UNGEGN standards for geographical naming are referenced for naming metadata: Cyprus, Nigeria, Burundi, Oman, Austria, Ecuador - Additional language/transliteration standards mentioned: -- Cyprus: ELOT743 (Greek to Roman transliteration, based on ISO 843) -- Austria: German Orthography Council, Austrian Board on Geographical Names **5. Metadata Tools and Platforms** - GeoNetwork, a metadata catalog platform supporting ISO and FGDC, is noted: Nigeria - United States: Uses FGDC-compliant XML metadata files

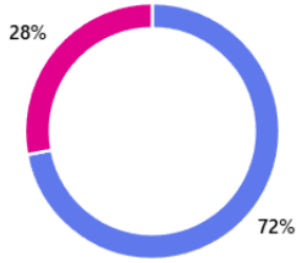
NO.	SECTIONS	QUESTIONS	SUMMARY
			6. Partial / No Standardization Metadata practices under development or informal in: - Uganda (developing standards) - Sweden (shares metadata but lacks a formal standard for naming) **6. No metadata standards or internal only** 18 of 73 responses were blank or responded with no metadata standard: - Egypt, South Africa, Japan, Mauritania, Senegal, Bulgaria, Morocco, Netherlands, Hungary, Moldova, Papua New Guinea, Russian Federation, Brazil, Lao People's Democratic Republic, Switzerland - Argentina – Internal metadata
30		**Do you have a legal arrangement or policy to ensure consistency of maps or geographical names data with private mapping platforms? (Closed Question)**	**Most responses were "No"** No = 50 of 73 = 68.5% Yes = 18 of 73 = 24.7% Blank = 5 of 73 = 6.8% Yes 18 No 50 

NO.	SECTIONS	QUESTIONS	SUMMARY
31		**Please describe the process for ensuring consistency of map products and geographical names data with private mapping platforms in your country. (Open Question)**	**Most countries did not provide an answer or mention a formal process.** 1. Policies or Legal Compliance: Albania, Slovakia, Nigeria, Timor-Leste, Ukraine, Lao People's Democratic Republic, Russian Federation, and Uruguay 2. Open Data Access: Several countries, like Bulgaria and Indonesia, provide geographical names as open data to ensure public access. 3. Multi-layered approach: Saudi Arabia 4. State Control: Cuba's mapping efforts are managed solely by state-designated entities, eliminating private sector involvement. 5. Project-Based Updates: The Philippines and other countries utilize seasonal contracts to update topographic maps. This overview highlights the emphasis on standardization, collaboration, and open access across various countries' geographical naming policies.

NO.	SECTIONS	QUESTIONS	SUMMARY
32	Innovation	**What innovative technologies or methodologies enhance collaboration between mapping and geographical naming activities? (example: the use of API for the integration of geographical names data into... (Open Question)**	**28 of 73 responses were blank or not applicable.** Summary of responses: 1. Geographic Information Systems (GIS) platforms: Nigeria, Cameroon, Chile, Papua New Guinea, Chile, Lao People's Democratic Republic, Saudi Arabia 2. APIs and Web Services: Germany, Iceland, Colombia, Sweden, Albania (in research), Singapore, Russian Federation, Canada, Brazil, New Zealand, United Kingdom 3. Cloud-Native and Enterprise GIS Solutions: United States of America 4. AI and Machine Learning (ML): Burundi, Trinidad and Tobago, Italy 5. Change Log Systems and Linked Data Approaches: Norway 6. Web Portals for NNA or NMA: South Africa, Philippines, Ecuador 7. Analogue systems: Czechia, Cyprus, Uganda 8. Digital tool: Cuba Overall, there is a push towards utilizing innovative technologies, including AI and APIs, to enhance collaboration and streamline processes in mapping and geographic naming, although many capabilities are still under development.

33		**Can you provide examples of pilot projects or case studies showcasing innovation in your collaborative efforts? (Open Question)**	**42 of 73 responses were blank or did not have an example to share.** - Germany: Linked Data project within the SDI of Germany - Nigeria: In production of large scale maps - Uganda: National Land information system - Timor-Leste: Joint survey on Geographical name's between Ministry of Justice and the Ministry of state Administration - Chile: Study for the development of a multi-scale toponymic database that provides toponymy at all scales published by the IGM of Chile. - Burundi: Developed together with (BCG, IGEBU, sectoral ministries, the private sector and technical and financial partners) the national geoinformation strategy - South Africa: The NMA has a permanent member on the NMA Council. The NMA does all of the spatial research as requested, and the NNA does all of the cultural research as needed. Both parties work closely together. - United States of America: Customized on-demand topographic maps (OnDemand Topos) are created using the best available NMA data. The majority of new and/or updated names (from NNA) are reflected on OnDemand Topos within 24hrs of name change. - Iceland: The “Hvar er?” crowd-sourcing project developed and launched by the NMA and the Árni Magnússon Institute in 2021 is a leading example. A version of the NMA’s place-name positioning web-based tool was created for mobile phones, and linked to place-name records. - Austria: Harmonizing names along the Austrian-Slovenian border, but was discontinued due to the fact that the federal mapping agency was not able to implement these names with the argument that it was by bilateral agreement bound to use the names for features on Slovenian territory as they are provided by the Slovenian mapping agency. - Saudi Arabia: NEOM Project – Integrated Mapping & Naming Support - Hungary: A new survey project of geographical names at a scale of 1:10000 is underway. - Ecuador: The IGM implemented a web GIS system so that different local actors (such as Decentralized Autonomous Governments (GAD) and communities) could report changes or inconsistencies in the geographic names of their territories. The collected data was validated through a technical verification process and then integrated into the official cartographic products. - Singapore: Programme for students to make use of the mapping dataset which includes names, to develop solutions to meet challenge statements. - Croatia: An audit of the records in the register of geographical names initiated by the NMA is currently being carried out. After the implementation, the commission performs quality control on a certain number of samples. - Chile: Study for the development of a multi-scale toponymic database and an online viewer that provides toponymy at all scales published by the IGM of Chile. - Lao People’s Democratic Republic: Collaborative projects that demonstrate innovation: Topo map 1:50 000 project and Principles for Laos Toponymic Guideline on the maps of the Lao People's Democratic Republic. - Canada: Dashboard used to improve the use of Indigenous geographical names for mapping and naming activities.

NO.	SECTIONS	QUESTIONS	SUMMARY
			- United Kingdom: Tools to support emergency services - Italy: Direct exchange of geographical names between the NMA and the Regions. - New Zealand: Topo teams supporting the update of maps with Indigenous names - Indonesia: In providing large-scale base maps in the Sulawesi region in 2024, SINAR serves as the platform for collecting geographical names. However, the integration of SINAR data with other base map datasets remains a manual, desktop-based process.
34		**What role does research and development play in the collaboration between the NMA/mapping activities and NNA/geographical naming activities in your country? (Open Question)**	**37 of 73 responses were blank or noted that R&D was minimal or not occurring.** The NMA employs advanced GIS and RDBMS technologies, regularly upgrading hardware and software. It collaborates closely with the NNA, although their research efforts in geographical names remain limited. Current initiatives include exploring AI technologies for updated cartography and focusing on 3D modeling, despite having minimal impact on naming. Research and development (R&D) are crucial for enhancing the accuracy and efficiency of mapping and naming, promoting better interoperability, automation using AI, and the integration of local names. Various research activities, often funded externally, aim to improve geographical name accuracy, but collaboration between agencies is still developing. In many countries, including Austria and Canada, place-name research is conducted within academic institutions, contributing to national standards and consultative groups. Despite some ongoing collaborations, there is a general acknowledgment of a lack of significant R&D activities related to geographical names and mapping, though there are emerging efforts to modernize tools and standards through innovative technologies. R&D's role is to ensure that geographical names are accurately reflected in maps and that modern scientific techniques are applied to improve geoinformation processes, emphasizing the need for consistency and standardization across mapping and naming activities. Collaborative discussions are underway between agencies to develop topographic map standards and improve data integration.

NO.	SECTIONS	QUESTIONS	SUMMARY
35	**Standards (Andreas)**	**Are national or international standards used in collaborative geographical names and mapping activities? (Closed Question)**	67% Yes (41 countries) 26% No (16 countries) 7% Blank (4 countries) This excludes Papua New Guinea which answered Yes and No from each account.  

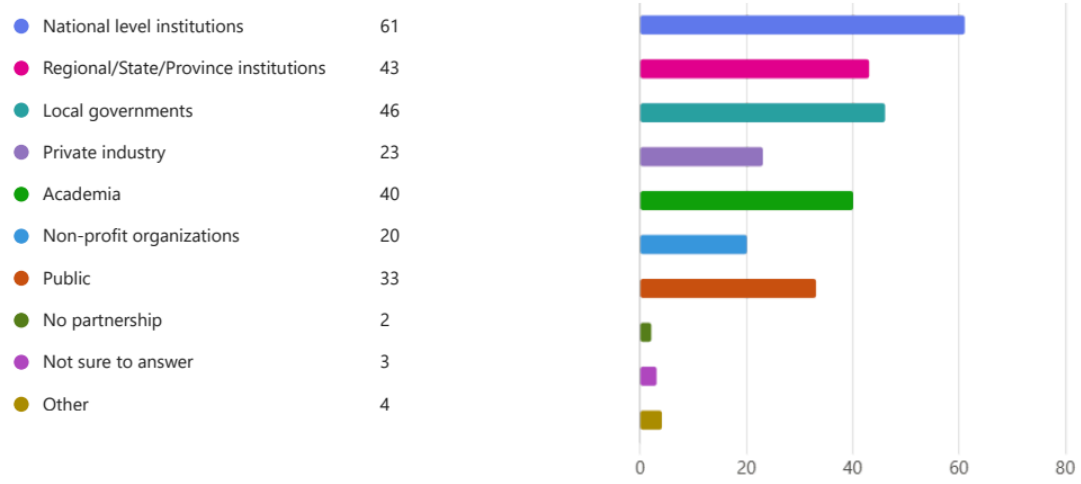
NO.	SECTIONS	QUESTIONS	SUMMARY
36		**What national or international standards guide your collaborative geographical names and mapping activities? (Open Question)**	**International Standards and Guidelines:** Many countries adhere to global standards such as **ISO 19115, ISO 3166, and UNGEGN resolutions** to ensure consistency, interoperability, and best practices in geospatial data management and naming conventions. **European Union & INSPIRE Directive:** Several countries (e.g., Albania, Austria, Bulgaria, Croatia, Czechia, Germany, Italy, Poland, Switzerland, and Saudi Arabia) align their national standards with the **EU INSPIRE** Directive, which sets technical specifications for spatial data interoperability and geographical naming. **National and Regional Frameworks:** Countries like Australia, Canada, Chile, Colombia, Indonesia, Nigeria, Norway, Philippines, Russian Federation, Singapore, Slovakia, Sweden, and the United States of America have developed specific standards, laws, or agencies dedicated to managing geographical names, including regulations on transliteration, naming conventions, metadata, and database structures. **Participation in Global Initiatives:** Many nations participate in UNGEGN activities, adhering to its resolutions and guidelines to promote global standardization of geographical names. **Specific Documents & Strategies:** Examples include Australia's soon-to-be-finalized place naming principles, Canada's engagement with ISO standards, and detailed regulations in countries like Poland and Russia on the legal aspects of geographical names. **Data Structuring & Metadata:** Several countries emphasize metadata standards and data structuring, often referencing ISO 19115, OGC standards, and national guidelines to support accurate, culturally sensitive, and interoperable geographical information. **In summary,** countries implement a mix of international standards, European directives, and national regulations to regulate, standardize, and manage geographical names and associated geospatial data, fostering both local relevance and global compatibility.

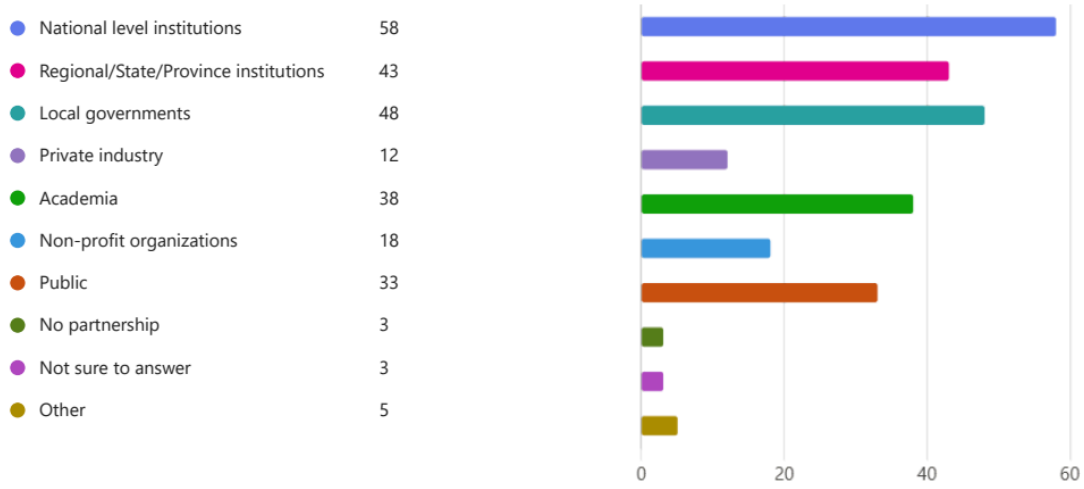
NO.	SECTIONS	QUESTIONS	SUMMARY
37		**Please explain the challenges due to the lack of standards. (Open Question)**	**Inconsistent and Incomplete Data:** Countries like Brazil face issues such as discrepancies in place names leading to problems in official documents and citizen services. Similar issues occur in South Africa with discrepancies across provincial bodies, and in many cases, data may lack essential elements or contain orthographic errors. **Absence of a Centralized Authority or Framework:** Several nations (e.g., Burundi, Cameroon, El Salvador, Finland, Ukraine, and Turkey) lack a dedicated national authority or clear legislative framework to oversee the standardization, management, and updating of geographical names, causing inconsistencies and difficulties in maintaining authoritative datasets. **Limited Institutional Capacity and Awareness:** Many countries (e.g., Burundi, Dominican Republic, El Salvador, Sudan, Uganda) report that their committees or agencies are still in early development stages, often lacking technical support, funding, or awareness about the importance of standardized geographical names. **Fragmentation and Lack of Coordination:** Countries like Togo, Papua New Guinea, and Uganda face issues due to multiple actors involved in map-making and naming efforts, with no effective monitoring committees or coordination mechanisms, leading to fragmented and unharmonized data. **Lack of Procedures and Research:** Some nations (e.g., El Salvador, Papua New Guinea, Sudan) lack established procedures for defining and updating geographical names, and often have no dedicated research or documentation processes in place. **Adherence to International Recommendations:** A few countries, such as Latvia, follow UN recommendations and guidelines, showcasing some alignment with international standards, but overall, the absence of comprehensive local standards remains a challenge. **In summary,** the main challenges include data inconsistencies, absence of dedicated authorities or legal frameworks, limited capacity and awareness, fragmented efforts, and lack of established procedures for standardization and management of geographical names. These issues hinder effective data sharing, interoperability, and the accurate representation of place names across different contexts.

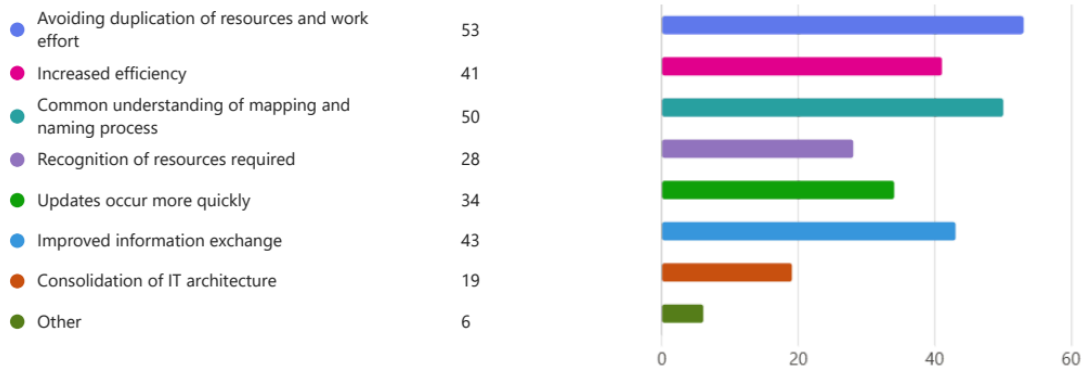
38		**How do you ensure compliance with these standards? (Example: Giving rewards to the parties that have been implementing the standards) (Open Question)**	Countries employ a variety of strategies to ensure compliance with national and international geospatial standards, encompassing legal mandates, quality control, training, and collaborative efforts. **Legal and Regulatory Enforcement** Many nations rely on legal frameworks to enforce compliance. Bulgaria makes its standards compulsory for all relevant entities, including governmental, educational, scientific, and private companies. Canada's Treasury Board Standard on Geospatial Data mandates the use of specific geospatial standards by the NMA, including ISO 19115. Slovakia simply checks for compliance with the law. Norway's place name act dictates that all official communication using geographical names must adhere to data in the place name registry. New Zealand incorporates standards into the NZGB guidelines, with compliance occurring during place name proposal processing and legal provisions for enforcement in the NZGB Act 2008. Armenia and Lao People's Democratic Republic also cite legal acts and a review of laws and regulations as foundational to ensuring compliance. **Quality Control and Internal Procedures** Robust internal quality control and validation procedures are common. Albania, Chile, Cyprus, Colombia, Italy, and Trinidad and Tobago all highlight internal quality control procedures, verification processes, and regular ISO standardization. Austria utilizes internal and external validation procedures, including the INSPIRE reference validator, and continuous monitoring through the Austrian Board on Geographical Names (AKO). Switzerland performs technical and semantic quality tests. Uruguay ensures compliance through strict quality controls by technical staff. Viet Nam has a dedicated geospatial data quality control unit. The United States of America has standards specialists and ensures all Geospatial Data Act requirements are met before public distribution of data and map products. **Training, Education, and Capacity Building** Beyond enforcement, some countries emphasize training and education to foster compliance. Mexico provides technical training and develops methodologies to guarantee compliance. Saudi Arabia (GEOSA) offers workshops and training sessions to improve awareness and technical capabilities among government entities and private sector partners. Sweden focuses on information and education to spread awareness and knowledge, acknowledging the absence of legal penalties or incentives. **Collaboration and Centralized Systems** Collaboration and centralized systems also play a significant role. Austria and Germany emphasize consultation between their respective NMAs, NNAs, and regional commissions/Laender. Belgium ensures compliance through coordinated efforts between federal and regional bodies, supported by the Belgian INSPIRE Coordination Committee. Croatia provides technical support as the National Contact Point for NSDI. Iceland notes that good and active working relationships between all parties involved in mapping Icelandic names mitigate compliance issues. Singapore benefits

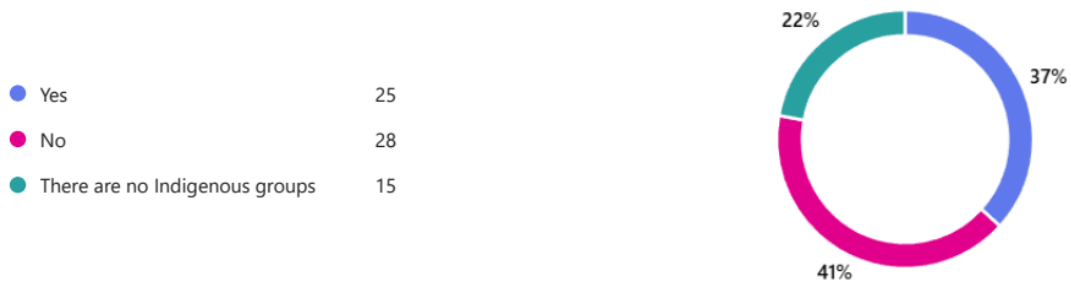
NO.	SECTIONS	QUESTIONS	SUMMARY
			from having both datasets managed by a single government agency division, making compliance easier to ensure. Saudi Arabia (GEOSA) utilizes a centralized Enterprise Geodatabase with automated validation rules and encourages best practices through collaborative partnerships. **Incentives and Disincentives** While less common, some countries incorporate incentives or consequences for compliance. Indonesia offers the "Bhumandala Award" as annual recognition for excellence in areas including geographical name standardization. Nigeria utilizes a Performance Management System to recognize and reward staff who adopt and utilize standards, while holding accountable those who fail to comply. In contrast, Australia predominantly relies on "best endeavors and self-compliance" due to a lack of specific legislation or policy for incentives or disincentives. Timor-Leste acknowledges challenges with compliance due to "institutional egoism" indicating a need for stronger enforcement or collaborative mechanisms. **Overall,** ensuring compliance with geospatial standards is a multi-faceted endeavor that often combines legislative power, rigorous quality assurance, continuous education, and collaborative engagement among all stakeholders.

NO.	SECTIONS	QUESTIONS	SUMMARY
39		**What challenges do you face in implementing and adhering to these standards collaboratively ? (Open Question)**	Many countries face similar challenges in ensuring consistent and accurate geographical names across various platforms, particularly when collaborating with the private sector. The primary approaches to address these challenges involve establishing clear legal frameworks, promoting data sharing, and implementing robust quality control measures. **Legal and Regulatory Frameworks** Several nations rely on legislation and official procedures to standardize geographical names. Slovakia and Ukraine, for instance, have laws mandating the use of standardized names and adherence to specific procedures for geospatial data. The Russian Federation is establishing a State Catalog of Geographical Names to ensure uniform usage and preservation. Uruguay requires all public and private organizations to seek technical advice and verification from the Military Geographic Service before publishing maps. Nigeria and Lao People's Democratic Republic also refer to their existing surveying and mapping laws and guidelines to ensure consistency. Saudi Arabia (through GEOSA) is actively developing formal legal frameworks to ensure mandatory consistency between national datasets and private mapping platforms, building on their existing national data governance framework, licensing for private operators, and ongoing collaboration efforts. **Data Dissemination and Accessibility** Many countries emphasize making official geographical names data accessible. Albania aims to disseminate official geographical names on private platforms like Google Maps. Bulgaria provides geographical names as open data. Indonesia utilizes open-access platforms for data dissemination, with institutional cooperation schemes for broader access. Saudi Arabia uses its National Geospatial Platform (NGP) to share authoritative datasets with private platforms. **Quality Control and Verification** Ensuring the accuracy and consistency of geographical names is a critical challenge addressed through various quality control processes. The IGM of Chile has internal procedures involving cartographer verification, consultation with a geographic names team, application of the "Determination of Geographic Names" procedure, and quality control based on ISO 19115. Norway addresses this by providing unambiguous data. The United Kingdom has detailed policies and specifications for the use of its products. Cuba relies on technical instructions, resolutions, and regulations to ensure uniformity in geospatial data production by state-designated entities. Timor-Leste involves a committee and the Ministry of Justice to formalize and establish surveys for geographical name maps. The Philippines employs seasonal project-based contracts for updating topographic maps, implying a continuous quality assurance process. These diverse approaches highlight a shared commitment to ensuring accurate and consistent geographical information,

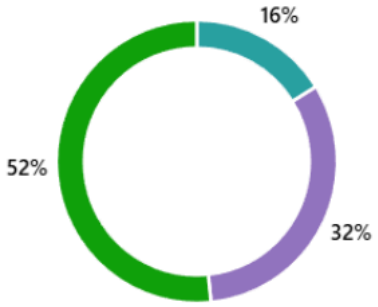
NO.	SECTIONS	QUESTIONS	SUMMARY
			often navigating the complexities of integrating governmental standards with private sector operations.
40	**Partnerships**	**Which group(s) are frequent partners to NMA/mapping activities? (Closed Question)**	**Most respondents collaborated with partners in mapping activities. The most common was National level institutions, but partnerships are diverse.** Responses: a. National level institutions – 63 (86%) b. Regional/State/Province institutions – 45 (62%) c. Local governments – 47 (64%) d. Private industry – 24 (33%) e. Academia – 42 (58%) f. Non-profit organizations – 21 (29%) g. Public – 33 (45%) h. Other (list other groups) – Tribal Groups; Selected experts i. No partnership – 2 (3%) j. Not sure to answer – 3 (4%) 

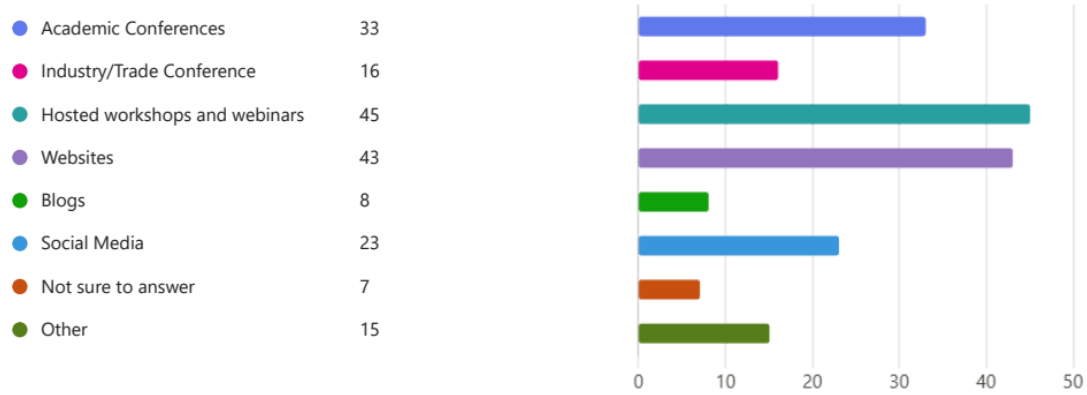
NO.	SECTIONS	QUESTIONS	SUMMARY
41		**Which group(s) are frequent partners to NNA/geographical naming activities? (Closed Question)**	**Most respondents collaborated with partners in naming activities. The most common was National level institutions, but partnerships are diverse.** Responses: a. National level institutions – 59 (81%) b. Regional/State/Province institutions – 43 (59%) c. Local governments – 48 (66%) d. Private industry – 12 (16%) e. Academia – 39 (53%) f. Non-profit organizations – 18 (25%) g. Public- 33 (45%) h. Other (list other groups) – Tribal Groups; Selected experts i. No partnership – 2 (3%) j. Not sure to answer – 3 (4%) 

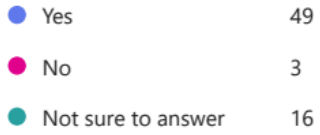
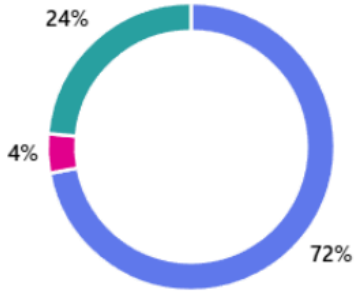
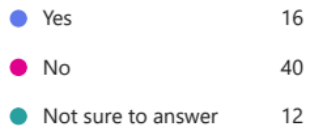
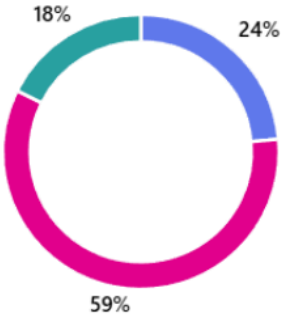
NO.	SECTIONS	QUESTIONS	SUMMARY
42		**Please list the specific frequent partners (e.g.: Ministry of Home Affairs, Statistical Office, Navy, etc.) Note: If you choose "No partnership" or "Not sure to answer", please fill (-) (Open Question)**	The responses to the question contained long lists of partners coming from various disciplines representing a great variety of institutions. There were 20 blank responses. 
43		**Are Indigenous groups involved in your mapping efforts? (Closed Question)**	34% of the respondents involve the Indigenous group in the mapping efforts. 38% of the respondents do not involve the Indigenous group in the mapping efforts. For the remaining response they have on no Indigenous groups Responses: Yes - 25 No - 28 There are no Indigenous groups – 15 Blank - 5

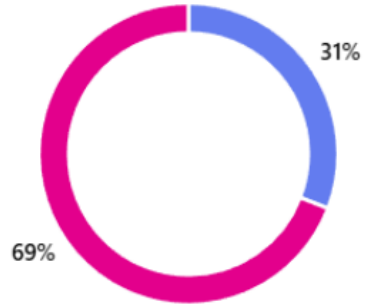
NO.	SECTIONS	QUESTIONS	SUMMARY
			
44		**How often do you invite Indigenous groups to participate your mapping activities? (Closed Question)**	**None of the respondents have regular participation by Indigenous groups in mapping activities.** If there is participation it is incidental. The United Kingdom noted that they have regular engagement through their names policy. 74% of the responses were blank. No responses for Annually, Monthly, or Quarterly 17 responses were Incidental or similar (Other) 54 blank responses
45		**Please describe how you engage or consult with Indigenous groups in mapping activities. (Open Question)**	**There were 25 responses to this question.** Consultation methods include face-to-face meetings, online interactions, emails, and surveys to involve Indigenous voices in the verification of geographical features. These were key methods listed: • Official collaboration or consultations • Community engagement • Invitations to verify data • Data collection

NO.	SECTIONS	QUESTIONS	SUMMARY
46		**Are Indigenous groups involved in your geographical naming efforts? (Closed Question)**	42% of the respondents involve the indigenous group in geographical naming efforts and 30% do not. 27% of the responses were blank. Responses: Yes - 31 No – 22 Blank - 20 
47		**How often do you invite Indigenous groups to participate your geographical naming activities? (Closed Question)**	None of the respondents have regular participation by Indigenous groups in geographical naming activities. Several responses noted it was incidental participation or other. The United Kingdom noted that they have regular engagement through their names policy. 57% of the responses were blank. Responses: a. Annually - 0 b. Monthly - 0 c. Quarterly - 5 d. Incidental – 11 e. Other - 11 Bi-annually – 2 (both were Austria) Blank – 42

NO.	SECTIONS	QUESTIONS	SUMMARY
			Annually 0 Monthly 0 Quarterly 5 Incidental only 10 Other 16 
48		**Please describe how you engage or consult with Indigenous groups in geographical naming activities. (Open Question)**	There were 30 responses to this question. Engagement or consultation with Indigenous groups in geographical naming activities occurs in various ways including: • Data collection • Restoration and standardization • Stakeholder engagement and collaboration • Consultation process • Expert verification • Direct communication via emails, phone calls, and meetings

NO.	SECTIONS	QUESTIONS	SUMMARY
49		**What approach(es) do NMA/mapping activities or NNA/geographical naming activities use to involve stakeholders? (Closed Question)**	• Academic Conferences – 33 (45%) • Industry/Trade Conference – 16 (22%) • Hosted workshops and webinars – 45 (62%) • Websites – 43 (59%) • Blogs – 8 (11%) • Social media – 23 (32%) • Not sure to answer – 7 (9%) • Other – 14 (19%) Filled in explanations: Direct involvement, interagency agreements, engagement with known descendants, newsletters, podcasts, Uni/School group visits/education; consultations, surveys, hackathons, exhibits, articles, public consultation campaigns, working groups, task teams, committees, national commemorations, attending international symposia, national meeting 

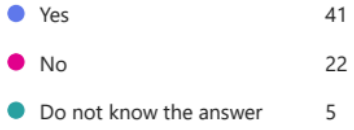
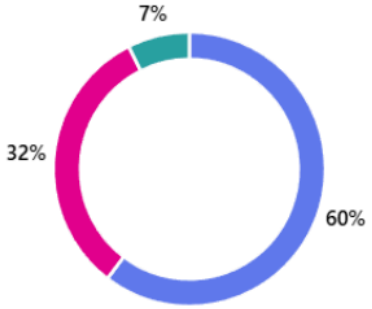
NO.	SECTIONS	QUESTIONS	SUMMARY
50		**Do the current approaches have an positive impact on building good partnerships with stakeholders? (Closed Question)**	67% of the respondents agreed that current approaches to involve stakeholders have a positive impact on building good partnerships with stakeholders, 4% do not know, and 22% were not sure of the answer. 6% of the responses were blank/no response given.   Responses: • Yes – 49 • No – 3 • Not sure to answer – 16 • Blank – 5
51		**Have you implemented any public-private partnerships in geographical naming or mapping activities? (Closed Question)**	Most (54%) of the respondents do not have public-private partnerships. There were 22% respondents with public-private partnerships. These were Czechia, Norway, Sweden, Austria, Slovenia, Sweden, Australia, Nigeria, Slovakia, Austria, Saudi Arabia, Singapore, Lao People's Democratic Republic, Canada, New Zealand, and Indonesia. 16% were not sure of the answer. 6% of the responses were blank/no response given. Responses: • Yes – 16 • No – 40 • Not sure to answer – 12 • Blank – 5  

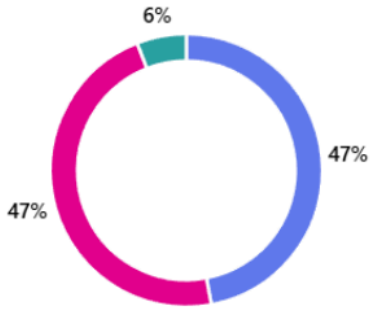
NO.	SECTIONS	QUESTIONS	SUMMARY
52		**Please describe your public-private partnership efforts (Open Question)**	There were 16 responses to this question which included diverse approaches. In summary they included: • Free Data Access • Crowd-sourcing Initiatives and citizen engagement. • Commercial Involvement • Technological Tools • Geospatial Standards Development • Consultation
53	**Capacity and Education**	**Is there any joint capacity-building or education program between the NMA/mapping activities and NNA/geographical naming activities? (Closed Question)**	28% Yes (17 countries) 66% No (40 countries) 7% Blank (4 countries) This excluded Nigeria which answered Yes and No. Yes 21 No 47 

54		**Please list any joint capacity-building or education programs. (Open Question)**	Countries are actively engaged in various joint capacity-building and education programs to enhance expertise in geographical names and mapping. These initiatives typically involve a combination of **formal education, specialized training, workshops, and inter-agency collaboration.** **Formal Education Integration** Several nations integrate geographical names and cartography into their educational curricula. Cuba includes these concepts in secondary and higher education, with training programs designed to impart necessary toponymy knowledge. Saudi Arabia (GEOSA) is collaborating with universities and research centers to incorporate geospatial education into academic curricula, offering guest lectures, joint research projects, and internships. **Specialized Training and Workshops** A common approach is the provision of specialized training and workshops for professionals. Brazil conducts online and in-person geographic names training for teams involved in building cartographic bases. Indonesia has delivered several training programs on updated technologies and methods for geographical names data collection and mapping production. Lao People's Democratic Republic organizes workshops and training sessions with national agencies and international organizations like ASEAN, UNGEGN, and through bilateral cooperation projects (e.g., Finland-Lao People's Democratic Republic, Viet Nam-Lao People's Democratic Republic). Nigeria emphasizes ongoing training and retraining of staff. South Africa provides training for Geography teachers, the NNA regarding spatial research, and provincial offices on procedures and relevant acts, as well as conducting education workshops in various provinces. Viet Nam has a training program for local officials on standardizing place names on maps. Saudi Arabia (GEOSA) partners with industry leaders like Esri to organize training workshops covering GIS technologies and geographical name integration. **Internal and Cross-Agency Collaboration** Many countries focus on internal capacity building and knowledge sharing within government structures. Cyprus's NNA, including members from the NMA, organizes educational programs and seminars. Czechia highlights its "one office" structure as a means of internal coordination. Norway has received capacity support from another NMA section and provides internet-based courses, webinars, and websites with handbooks and guidelines. The United States of America emphasizes cross-training and internal information sharing. Sweden has a long-term collaboration between government authorities responsible for administrative divisions and linking names to physical locations. **Public Awareness and Outreach** Some initiatives extend to public awareness and engagement. The Philippines engages in communication, education, and public awareness during fieldwork activities, including interviews with Indigenous Peoples. South Africa includes collaboration with the heritage sector for historical and cultural education, highlighted during national days. Singapore has programs like "Map Our World" and "GNSS Innovation Quest" that likely serve as public outreach initiatives. **Future Developments** Saudi Arabia (GEOSA) is undertaking a feasibility study to establish a dedicated National Geospatial Academy, which

NO.	SECTIONS	QUESTIONS	SUMMARY
			would offer specialized training in various geospatial sciences, including geographical naming, to develop a skilled workforce aligned with national standards.

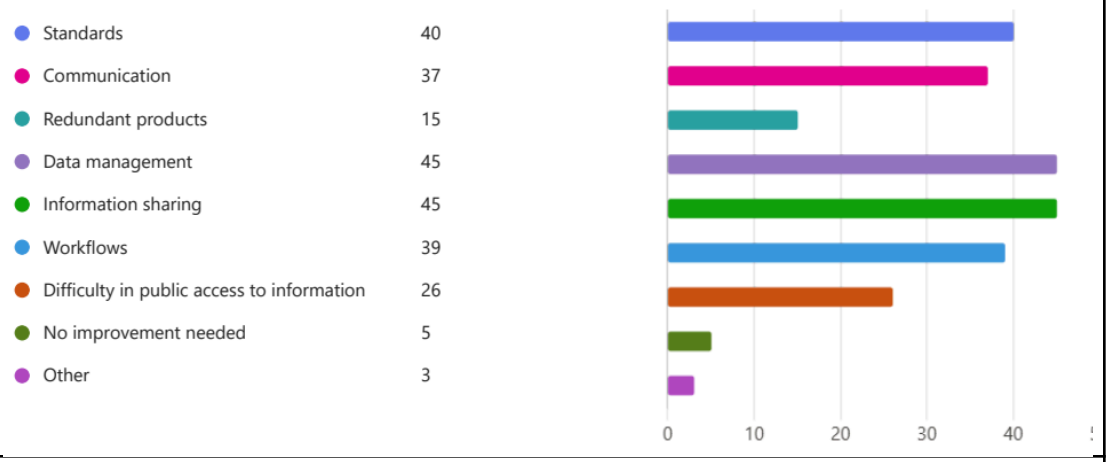
55		**What challenges do you face in building or maintaining your joint program? (if any) (Open Question)**	Countries face a variety of challenges in establishing and sustaining joint programs for geographical names and mapping, primarily revolving around **funding, coordination, technical capacity, and stakeholder engagement.** **Financial Constraints** A recurring challenge across many nations is the lack of sufficient funding and budgetary concerns. Cyprus, Czechia, Indonesia, Nigeria, Norway, Philippines, South Africa, and the United States of America all explicitly mention insufficient funding or budget constraints as a major impediment. Lao People's Democratic Republic also identifies "Funding Constraints" as a key issue. Saudi Arabia recognizes resource and budget constraints as a challenge for sustaining funding for joint programs, especially for training and technology upgrades. **Coordination and Stakeholder Engagement** Coordination between different entities and effective stakeholder engagement are significant hurdles. South Africa highlights the challenge of coordination between various role players in implementing approved standardizations. Singapore struggles with getting other government agencies to join in. Saudi Arabia faces complexity in ensuring effective collaboration between different internal departments (mapping and geographical names) and in ensuring consistent engagement from external stakeholders such as ministries, local governments, and the private sector. Indonesia also points to a lack of communication between stakeholders. Lao People's Democratic Republic identifies "Weak Institutional Coordination" as a challenge. **Technical Capacity and Standards** Challenges related to technical capacity and the absence or harmonization of national standards are also noted. Lao People's Democratic Republic explicitly lists "Limited Technical Capacity" and "Absence of National Standards" as challenges. Saudi Arabia grapples with the "Evolving Technological Landscape" requiring continuous staff upskilling, and "Data Standardization and Interoperability" particularly when data comes from various sources. Viet Nam mentions that some local officials have limited knowledge of place names, indicating a need for improved technical understanding at a local level. **Awareness and Continuity** Some countries highlight the need for greater awareness and program continuity. Brazil stresses the importance of constantly reminding stakeholders about the significance of geographic names for mapping and cultural heritage. Cuba suggests incorporating concepts about geographical names and their impact on cartography into study programs. Colombia simply states "Continuity" as a challenge, implying difficulties in maintaining the momentum and longevity of programs. Lao People's Democratic Republic also mentions "Sustainability and Follow-Up" as a challenge. **In summary,** successful joint geospatial programs require not only adequate financial investment but also robust inter-agency coordination, continuous technical development, effective communication, and sustained commitment from all involved parties.

NO.	SECTIONS	QUESTIONS	SUMMARY
56	**Communication and Engagement**	**Do you have mechanisms for public consultation and feedback for NMA/mapping activities? (Example: Using the official map portal to collect public feedback on changes in land use and land cover) (Closed Question)**	Most (56%) of respondent have mechanisme for public consultation and feedback for NMA/mapping activities. **Responses:** **• Yes – 41** **• No – 19** **• Not sure to answer – 8** **• Blank – 5**  
57		**Please describe the ways in which you engage with the public (Example: using social media to promote new mapping products) (Open Question)**	There were 41 responses to this question which were include diverse approaches. In summary they included: 1. Web Portal 2. Web Platform 3. By email/phone 4. Social Media 5. Academic Conferences, Workshops, Training Program

NO.	SECTIONS	QUESTIONS	SUMMARY
58		**How do you measure the effectiveness of your communication and engagement efforts related to mapping activities? (Example: Using the official map portal to collect public feedback on changes in la... (Open Question)**	**Most of respondent answered using the official map portal and the others answered :** - Internal research - Questionnaires - Number of social media/ social media comments - customer service email - Partnership feedback - Participation in event and webinars
59	**Closing**	**Do you have processes in place for public consultation and feedback regarding NNA/geographical naming activities? (Example: Using the official naming website to**	**In this question, respondents answered YES (43,8%) and NO (43,8%).** Responses: • Yes – 32 • No – 32 • Not sure to answer – 4 • Blank – 5 Yes 32 No 32 Do not know the answer 4 

NO.	SECTIONS	QUESTIONS	SUMMARY
		collect public feedback before stan... (Closed Question)	
60		**Please describe the ways in which you engage with the public (Example: using social media to promote naming activities) (Open Question)**	**There were 32 responses to this question which include diverse approaches.** In summary they included: 1. By Letters, newspaper public notice 2. Email 3. Website or official geoportal 4. social media 5. using online and offline survey 6. Open-access platform 7. Workshops, conferences, event 8. Collaboration with provincial and district authorities
61		**How do you measure the effectiveness of your communication and engagement efforts related to geographical naming activities? (Example: through**	Most of them answered **through statistical reports from social media and websites.** The others answered, through surveys and feedback form.

NO.	SECTIONS	QUESTIONS	SUMMARY
		surveys or statistical report from social media engag... (Open Question)	
62		**What are the reasons for the absence of relationship between your NNA/geographical naming activities and NMA/mapping activities? (Open Question)**	- Morocco: The two committees (the National Committee on Toponymy and the National Geospatial Information Committee) are currently being reconstituted. - Republic of Moldova : At present, in the Republic of Moldova, the Geodesy, Cartography and Cadastre Agency (AGCC) is the central authority responsible for both the field of geographic names and cartography. - Senegal: Draft decree for the national toponymy commission exists
63		**What benefits have you observed from integrating geographical names and mapping activities? (Closed Question)**	Most of respondent answered: 1. Avoiding duplication of resources and work effort 2. Increased efficiency 3. Common understanding of mapping and naming process 4. Recognition of resources required 5. Updates occur more quickly 6. Improved information exchange;Consolidation of IT architecture;

NO.	SECTIONS	QUESTIONS	SUMMARY
64		**Please choose area(s) for improvement in collaborating between the NMA/mapping activities and NNA/geographical naming activities? (Closed Question)**	Most of respondent answered: 1. Standards 2. Data Management 3. Communication 4. Difficulty in public access to information 5. Information sharing 6. Workflows 
65		**Please provide more details. Note: If you chose "No improvement needed" or "Other", please fill (-) (Open Question)**	- There is improvement needed to promote the importance of mapping in the country. - Education and Capacities building needed - improve workflows between NMA and NNA and other partners - NMA-Data should be Open Data - A joint editing interface where mappers and toponymists can flag new features and coordinate naming decisions - Shared templates for naming proposals that include location, cultural context, and language data. - A national place name database that syncs with live mapping feeds - The standards of the federal mapping agency are in some fields (notably the treatment of minority names) not in line with international standards - Cooperation with the NNA is sometimes more difficult because most experts do not use GIS tools, which are of key importance in the field of spatial data. - Public information should be increased - Lack of linear engagement between the NMA and provincial/local structures causes discrepancies that have to be corrected by the NNA, that has a significant staffing shortage. - Integration between datasets (Maybe cloud based systems too).

NO.	SECTIONS	QUESTIONS	SUMMARY
66		**What practices do you follow that you would like to highlight as Best Practices for others? (Open Question)**	**June 3 updated summary:** - Existence of NNA, protected by law (Strong legislation for both NMA and NNA) - Extensive use of geospatial databases and standards - Involvement of native communities in boundary mapping and geographic naming activities. - Division of Toponymy as specialized structural division of NMA - Research of the largest number of sources to carry out studies of geographical names due to their multidisciplinary nature - The Good Place-Name Practice - Cooperation with various organizations, introduction of new mechanisms for implementing various processes - Develop and Handbook, as well as a robust Standard Operating Procedure - The NMA's work in engaging local communities and individuals to add to the place-name database, via workshops and other forms of communication - Regular collaboration of experts from various professional fields dealing with geographical names - In implementing the nine IGIF pathways, we find that Indonesia has strengths in the policy and legal as well as the partnerships sections. We have established several policies related to naming and mapping efforts.

Appendix C: List of Participating Countries

List of Participating Countries

The questionnaire received responses from 62 member states, as detailed below:

1	Albania	35	New Zealand
2	Argentina	36	Nigeria
3	Armenia	37	Norway
4	Australia	38	Papua New Guinea
5	Austria	39	Philippines
6	Belgium	40	Poland
7	Brazil	41	Republic of Moldova
8	Bulgaria	42	Russian Federation
9	Burundi	43	Senegal
10	Cameroon	44	Singapore
11	Canada	45	Slovakia
12	Chile	46	Slovenia
13	Colombia	47	South Africa
14	Croatia	48	Sri Lanka
15	Cuba	49	Sudan
16	Cyprus	50	Oman
17	Czechia	51	Sweden
18	Dominican Republic	52	Switzerland
19	Ecuador	53	Saudi Arabia
20	Egypt	54	Timor-Leste
21	El Salvador	55	Togo
22	Mexico	56	Trinidad and Tobago
23	Finland	57	Uganda
24	Germany	58	Ukraine
25	Hungary	59	United Kingdom of Great Britain and Northern Ireland
26	Iceland	60	United States of America
27	Indonesia	61	Uruguay
28	Italy	62	Viet Nam
29	Japan		
30	Netherlands		
31	Lao People’s Democratic Republic		
32	Latvia		
33	Mauritania		
34	Morocco		