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Writing system and pronunciation

Verification of Geographical Names in Indonesia

Submitted by Indonesia**

Summary

The standardization of geographical names in Indonesia consists of three stages: acquisition, verification and confirmation. Verification is an essential step in determining the quality and correctness of geographical names and comprises a spatial and written verification of each toponym. This process requires the cooperation of several ministries, agencies and local governments, depending on the object's location and strategic value. This process frequently involves community leaders and related experts who gather information that can complement topographical name data.

Verification is normally conducted through field work and meetings with stakeholders. However, given the circumstances of the pandemic, that now has to be done online. SAKTI (Sistem Akuisisi Data Toponim Indonesia) is a toponym data acquisition application that can be accessed through the Internet. The name is currently being changed to SINAR (Sistem Informasi Nama Rupabumi). The application has made it possible to perform verification activities online. However, the quality of Internet connections in remote areas has made it a challenge to gain benefit from the application there.

The Geospatial Information Agency, as the coordinator of the national name authority in Indonesia, has realized that the online verification process was not as effective as when conducted face-to-face. The challenges and opportunities of the first online toponym data verification in Indonesia will be discussed in detail in the full report.

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Introduction

Geographical names are widely used in everyday communication, referring to various natural and human-made objects in the world, from part of an address, recognizing the culture, up to emergency response purposes. Communicating the importance of geographical names under the influence of globalization and massive urbanization is a great challenge. Many geographical names undocumented, and some of these disappear unnoticed. Under the circumstances, to preserve the ingenuity, history, and local wisdom embedded in a place name, geographical name standardization is inevitable.

The standardization of geographical names in Indonesia comprises several processes: data acquisition, verification, announcement, confirmation, and gazetteer publication. BIG as the NNA coordinating with several ministries, organizations, individuals, and local governments to perform the task. The collaboration is essential as the standardization process authenticates the spatial and non-spatial elements (e.g., pronunciation, history, meaning) embedded in the geographical feature.

Geographical Names Verification

Verification is a crucial step in the process of geographical names standardization. Indonesia's geographical names verification is divided into three stages: district, province, and central/national. The data is authenticated sequentially by the respective verification team. At the district level, the team usually consisted only of government officials. While at the provincial level, the team typically includes additional resources, such as academics, experts, other relevant stakeholders, to validate the data. For the central/national level, NNA will lead the task and involve related ministries, academics, experts, and even the local government to be invited if necessary.

In each stage, all the data is put into the process of examination and validation. The result of the analysis comes in a data status: whether it is accepted or rejected. If the data is acceptable, it will continue to the next step and further up to the gazetteer publication.

Formerly, the method employs multiple software (i.e., GIS, spreadsheet, image editor, and word processor) to perform the task. Unfortunately, not everyone has the skill to operate all the tools. Therefore, starting 2018, the standardization process uses tailor-made applications named SAKTI and SINAR to deliver the output. The two software help speed up the verification process since it is easy to use, accessible, and robust.

As stated in its name, the primary function of SAKTI is to perform toponym data acquisition by utilizing multiple sensors that exist in a smartphone. On the other side, SINAR has a fundamental role in facilitating verification and the publication of the toponym data.

Preserving the Pronunciation of Geographical Names

There are more than 700 languages spoken across the Indonesian archipelago. Indonesian people are influenced heavily by regional languages and their dialects. Thus, the pronunciation of geographic names can be different and sometimes complex to be determined precisely. In terms of a geographical name's spoken form, geographical names pronunciation is passed orally from one generation to the next and remembered mentally—the lack of documentation on geographical names pronunciation led to inconsistencies in writing. To secure native language and cultural heritage, BIG was taking steps to ensure that geographical names' pronunciation is collected. Therefore, the verification includes pronunciation recording of geographical names by a native speaker from the locals that understand his/her environment and have a good knowledge of its history.

In the effort to conserve the geographical name's pronunciation, the recorded sound from the native speaker was then converted into writing. BIG has collaborated with the Ministry of Education and Cultural Affairs and the Office of Language Center from respective provinces to preserve the written expression using the International Phonetic Alphabet (IPA). The geographical name's pronunciation is optional, but it becomes one of the recommended data to provide in the verification process.

Geographical Names Database for National Gazetteer

The result of the verification process was announced to engage public participation, especially local people, in giving comments, suggestions, or corrections to the already-verified geographical names before it was published in the gazetteer. This process will help to resolve errors in spelling and transliteration. Also, user feedback will help to correct the mistakes and complete the information of geographical names.

Previously, Gazetteers were only published in a book, which was not handy in the term to extract geographical name information. In the latest development, the national gazetteer is published in two forms: printed copy and web-based interface. The online gazetteer is one attempt to help the public access the data with ease.

In December 2020, the Indonesian Government revised the 2012 edition of "National Gazetteer," which contains 19.348 geographical names, consists of natural features (including 16.771 island names), human-made features, and administrative regions. National Gazetteer of Indonesia distributed into two modes:

1. Simple gazetteer
   Gazetteer as a printed resource was often limited to columns for the attributes. It contains only five primary information: standardized name, type of feature, variant name, coordinate, and administrative region (district and province).
2. Complete gazetteer
   Gazetteer as an online data providing public access for searching, viewing, and download for free. It contains complete toponyms information: standardized name, type of feature, variant name, coordinates, language origin, history of name, pronunciation, and other relevant information in more detail. The public can access it through the SINAR website at http://sinar.big.go.id.

Adaptation in pandemic situation

BIG continuously exploring every possibility to maintain the continuity of geographical names standardization. In the normal situation before the pandemic, the verification process is performed through (physical) meetings. All the related parties gather, verify and discuss the geographical names brought to the forum. However, in the COVID19 pandemic situation, this process cannot be executed due to physical and activity limitations. Therefore, BIG adapt and overcome the limitation through the available and practical solution. The rise of online meeting applications during the pandemic led BIG to experiment with the platform.

The adaptation on the meeting platform has to follow the standardization geographical names stages. Since the stages can not be reduced, it affects either the duration of verification or the quantity of the geographical names verified. Therefore, if the verification process's duration is maintained as usual, then the number of geographical names will be decreased.

Consequently, there is a compromise for the "new" verification process. In general, the comparison of output quantity between normal and "new normal" verification is 5:1 (the normal process will gain five times more verified names than that via the online verification). Depending on this condition, an election against the verification feature was needed.

Conclusion

The verification of geographical names is vital for the standardization process. The adoption of technology to ease the process is inevitable. As it simplifies the steps, using the latest method and technology would open new possibilities to enhance the verification process.

SINAR showed the improvement in the streamlined process from acquisition to publication. It also added a more advanced feature such as sound recording and automated the publication of the gazetteer.

The flexibility of SINAR is also shown in the current situation of the pandemic. It maintains the function to serve the user perform geographical name verification by virtual means and overcome the limitation of a physical meeting.

As a result, for the first time over decades, Indonesia has successfully published its national gazetteer in 2020 as tangible proof that the pandemic stops at nothing as long as the agility and spirit of adaptation exist.

The group of experts is invited to express its view on the technical paper.