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English

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**United Nations Group of Experts on  
Geographical Names**

**2023 session**

New York, 1 – 5 May 2023

**Item 14 of the provisional agenda \***

**Geographical names data management**

**Report of the Working Group on Geographical Names  
Data Management for 2021 and 2022**

Submitted by Working Group on Geographical Names Data  
Management\*\*

Summary

To respond to United Nations data needs, the Working Group on Geographical Names Data Management of the United Nations Group of Experts on Geographical Names addresses issues relating to the processing of geographical names data, including the creation, maintenance and outputs of geographical names data files and gazetteers, as well as aspects of geographical names data exchange formats and standards. The strategic plan and programme of work adopted at the 2021 session of the Group of Experts was intended to guide the work of the Group of Experts to achieve several aims.

Experts of the Working Group have collaborated to prepare the present report, which covers the activities conducted by the Working Group in 2021 and 2022.

The report provides an overview of the tasks being performed to implement strategy 1 (technical expertise) and is focused on the first findings, the challenges faced and the obstacles encountered. It includes: (a) the delivery of technical expertise and advice to national authorities regarding geographical names standardization (including romanization); and (b) the activities carried out to promote efficient and effective geographical names data and gazetteer management, as well as interoperability.

The technical development and sharing of good data management practices, comprising the identification of trends in development and future direction for geographical names data management, are crucial.

The report will be concluded with an outlook and some requests for upcoming activities in the period from 2023 to 2025.

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\* GEGN.2/2023/1

\*\* Prepared by Pier-Giorgio Zaccheddu (Germany) on behalf of the Working Group on Geographical Names Data Management

## 0. Content

The report has been structured according to the action items associated with Strategy 1 and includes the following chapters:

1. Scope of Work
2. Progress against the action items of Strategy 1 – ‘Technical expertise’ from 2021 – today
3. Interlinkages with and contributions to other action items from strategies 2 to 5 of the Programme of Work
4. Meetings of the Working Group since 2021
5. Further actions for 2023 – 2025 (proposals)
6. Points for discussion

## 1. Scope of Work

To respond to UN resolutions and UN data needs, this Working Group on Geographical Names Data Management (WG GNDM) addresses various issues of geographical names data processing, including the creation, maintenance and outputs of geographical names databases (including gazetteer production) and aspects of data exchange formats and standards. Issues of providing geographical names information within national and international spatial data infrastructures (SDIs) through web (gazetteer) services and multipurpose geographical names database solutions in the context of SDIs as well as the utilization of volunteered geographic information and crowd sourced data are becoming more and more important and are reflected by the Working Group.

A description of the scope of work of the Working Group is integrated in UNGEGN’s website:

[https://unstats.un.org/unsd/ungegn/working\\_groups/wg2.cshtml](https://unstats.un.org/unsd/ungegn/working_groups/wg2.cshtml)

This website section includes the actions agreed by the Working Group at the UNGEGN Session in 2021. It will be updated after the UNGEGN Session 2023.

According to the Strategic Plan and the Programme of Work of UNGEGN particularly ‘Strategy 1: Technical Expertise’ is supported by the Working Group and coordinated by its Convenor:

Strategy 1: Technical Expertise

- i. Deliver technical expertise and advice to interested parties in Member States for geographical names standardization, including romanization and quality geographical names data and gazetteer management as well as interoperability;
- ii. Develop, extend and share good data management practices of Member States; and
- iii. Identify trends on developments and future direction for geographical names data management and encourage the use of innovative methods, integrated approaches and technological advances to further the aims of UNGEGN.

The Working Group used a Wiki in order to discuss, start and monitor the actions. Each action item is supported by so-called ‘caring colleagues’ who coordinate the actions jointly with the Convenor. And, each action item is specifically supported by several nominated WG members grouped as ‘Task Team’. Registered experts (as the Working Group members) are allowed to access the progress of all action items through the Wiki pages. If Member State representatives are interested to contribute and

to be informed about action items for Strategy 1, they are invited to contact Mr. Pier-Giorgio Zaccheddu, Convenor of the Working Group in order to get access details.

Weblink: <https://wiki.gdi-de.org/display/wgtdfg/Work+Program> (for registered members only)

## 2. Progress against the action items of Strategy 1 – ‘Technical expertise’ from 2021 – today

The following points summarize the progress of activities occurred during 2021 till today according to the Programme of Work for Strategy 1 – ‘Technical expertise’:

*Action item 1-i-1: Provide consultancy to the developments related to the UNGEGN database, UNECA “UNECA Africa GeoNyms database/gazetteer initiative”, the INSPIRE initiative, the UN and European gazetteer projects, the GIS web-based World Geonames Application and other projects of developing countries*

As a general statement, the Working Group identified that this action item can be interpreted as a mixture of “program-specific tasks” and “project-specific tasks” (e.g. due to the UNGEGN database activity).

The following activities have been discussed:

- UNGEGN database: new developments have been discussed and feedback has been provided. This activity is linked to action item 1-ii-5.
- UNECA: UNECA has been contacted by the Bureau to get information on the progress on GeoNyms.
- Contributions to Training Courses on Toponymy: Working Group members contributed to the preparations of the next training course in Bali, Indonesia, to be held in June 2023.
- Open Regional Gazetteer for Europe: EuroGeographics, the European Association, continues with the developments of serving European users by geographical names and other geospatial data from National Mapping and Cadastral Authorities from a single access point. Since 2019 the Open Gazetteer for Europe is available. To add exonyms and variant names to the Open Gazetteer, an UNGEGN expert for geographical names regularly updates and enhances the data base. A separate report about the progress was submitted to UNGEGN’s Session 2021. An update will be presented at the next UNGEGN Session in 2025. The current status of the Open Gazetteer can be accessed through the ‘Open Maps for Europe’ platform: <https://www.mapsforeurope.org/datasets/open-gazetteer>

Weblink: <https://wiki.gdi-de.org/display/wgtdfg/Subtask+1-i-1> (for registered members only)

*Action item 1-i-2: Evaluate and assess exchange standards for geographical names information and for web services (gazetteer, feature and mapping) for the provision of geographical names information (comprising the review of Part II of the UNGEGN Technical Reference Manual)*

A discussion paper ‘On geographical names data modelling and transfer related standards, manuals, or guidelines’ has been prepared and been submitted to UNGEGN’s Session 2023 as a separate paper for discussion. In the document the current status on geospatial information sharing, accessibility, and dissemination related standards are compiled. Furthermore, some specific issues related to geographical names data modelling are summarized, comprising the intangible cultural heritage elements that go hand in hand with the physical characteristics relating to location identification for administration, planning, navigation, emergency response, science, resilience, etc. Finally, some evaluation notes on UNGEGN’s Technical Reference Manual for the National Standardization of Geographical Names, ‘Part two, Toponymic data transfer standards and formats’ are introduced.

The compilation shall contribute and be the rationale for a potential update of the structure for UNGEGN's 'Technical Reference Manual for the National Standardization of Geographical Names (2007)' or the content can already be added as an addendum.

UNGEGN members and observer organizations are invited to provide their views, examples as well as data providers' and users' experiences on the application of the standards described. The outcome and findings can at least be published within UNGEGN's webpage and the Working Group wiki.

Weblink: <https://wiki.gdi-de.org/display/wgtdfg/Subtask+1-i-2> (for registered members only)

*Action item 1-i-3: Present geographical names data management topics at national and international conferences organized in the fields of geospatial information management*

The Working Group discussed about how to find better ways to inform UNGEGN members and how to get the information. The Social Media Outlet / Strategy can be of additional help. At least, Working Group members have been requested to inform the Convenor about contributions / presentations (providing titles, authors) of relevant conference papers. The Working Group agreed to provide short summaries of the contributions / presentations in a sub-Wiki-page under 'Representation'. This page for presentations is a starting point and will grow from there. Social Media shall be used to support this action item by circulating upcoming meetings, presentation (notifying the Working Group on Publicity and Funding).

Weblink: <https://wiki.gdi-de.org/display/wgtdfg/Subtask+1-i-3> (for registered members only)

*Action item 1-i-4: Promote, agree and disseminate romanization systems for national and global use*

In order to assist and contribute to this action item the Convenors of the Working Group on Romanization Systems have agreed to liaise with Member States to assist donor countries in developing and putting forward scientific romanization systems for adoption. This Working Group on Romanization Systems will continue to promote and disseminate adopted romanization systems to all UNGEGN Member States.

Weblink: <https://wiki.gdi-de.org/display/wgtdfg/Subtask+1-i-4> (for registered members only)

*Action item 1-i-5: Promote and support the establishment of an authoritative international database/gazetteer of geographical names to be disseminated to the public through UNGEGN*

The Working Group discussed this action item and gathered positions and use cases from members to understand the intention and the need for an international database/gazetteer. The objective for this action item had been to report on findings, possible high-level solutions, and proposed next steps at the UNGEGN Session 2023. The discussion in the Working Group revealed that the technical requirements and institutional arrangements for the establishment of an authoritative international database/gazetteer cannot be determined, mainly because a broader concept for an additional / a separate authoritative international database/gazetteer is not needed and cannot be designed, developed and maintained due to conceptual, institutional, political and organizational reasons. A dedicated statement of the Working Group regarding this matter was shared with the Expanded Bureau. The Working Group findings and its proposal were discussed and the need to adjust the intention and output of this action item emerged. The Expanded Bureau decided that the broader concept of a fully comprehensive authoritative world database/gazetteer is currently not considered feasible or within the scope of what UNGEGN can achieve. However, the action item 're-develop UNGEGN World Geographical Names webpage' (as an output of 5-ii-3 'UNGEGN Website development and

maintenance’) has been identified to be more suitable to be included in action item 1-i-5 when considering its nature and scope. In a nutshell, the work about the UNGEGN World Geographical Names Database will be moved to action item 1-i-5 and monitored by the Working Group. It is worth noting that the work affiliated to the database stays as cross-domain task/development in the responsibility of the Expanded Bureau, but will now be coordinated through Strategy 1. This move gives the database a higher profile (and removing it from 5-iii-3). It is worth noting that action item 1-iii-8 on the availability of free and easily-accessible authorized digital geographical names data can be linked to this action, too. Compiling lists of those with open names data becomes more and more important and an achievable part of UNGEGN’s work programme. A separate paper for discussion on 1-iii-8 has been prepared and been submitted to UNGEGN’s Session 2023.

Weblink: <https://wiki.gdi-de.org/display/wgtdfg/Subtask+1-i-5> (for registered members only)

*Action item 1-ii-6: Examine processes and recommend good practice (1) on how single and multi-jurisdictional Member States record, store, disseminate and manage their geographical names on (2) for the reuse and validation of volunteered geographic Information, crowd sourced data and Linked Open Data (LOD) as part of national geographical names standardization work on (3) for the use of standardized geographical names as fundamental data theme in national spatial data infrastructures (SDIs) within the monitoring of the SDG indicator framework in order to analyze and monitor the changes in a country*

The Working Group agreed that (1) is two-folded and needs to bridge onomastics and technical issues. The first step agreed was to define the terms and to invite the “Task Team” to discuss them and continue from there. This task has to be cross-checked with the Working Group on Cultural Heritage, particularly with focus group 2 “Legislation, policies & best practices relating to geographical names” and seek for collaboration. Afterwards an overview of practices used by reading country reports and division reports has to be provided. Sub-action items (2) and (3) are associated with more technical issues like the reuse and validation of volunteered geographic Information (VGI), crowd sourced data and Linked Open Data (LOD) as part of national geographical names standardization. Here, the conduction of the virtual Linked Open Data workshop in 2022 (see subtask 1-iii-9) can be mentioned. Furthermore, the Working Group agreed to make an inventory of VGI and LOD use cases in Member States' spatial data infrastructures and to report on this in future UNGEGN meeting(s). Member States shall be encouraged to report on VGI and LOD use cases and their experiences as well as to identify good practices based on theory and success stories (use cases and experiences). The Working Group agreed to conduct a survey to collect and compile information on all three sub-action items. This survey is planned for 2023.

*Action item 1-ii-7: Promote the use of the online discussion forum (Wiki) e.g. (1) on the relationship UNGEGN – UN-GGIM or SDG indicator monitoring on (2) data modelling and database design on (3) general issues in the context of data maintenance (like feature classifications) and on (4) geographical names data production and distribution in the context of national, regional or global Spatial Data Infrastructures (SDIs)*

The Working Group agreed to keep the online discussion forum (wiki) as it is. No further action is required and planned here. The wiki will be used for the communication and development of the actions supporting Strategy 1 of the Programme of Work. With reference to (1) the Working Group recognized the importance of co-operating with the UN initiative on Global Geospatial Information Management (GGIM), bringing together the integration of geospatial and statistical information to address key global challenges. The Working Group generally supports the collaborative activities and the way forward concerning future opportunities for collaboration with UN-GGIM. The support of

UNGEKN to the Sustainable Development Goals (SDG) indicator framework has become a major part of the discussions. With reference to (2) data modelling and database design as well as (3) general issues in the context of data maintenance (like feature classifications) and on (4) geographical names data production and distribution in the context of national, regional or global Spatial Data Infrastructures (SDIs), the Working Group compiled information in the wiki platform.

Weblink: <https://wiki.gdi-de.org/display/wgtdfg/Subtask+1-ii-7> (for registered members only)

*Action item 1-iii-8: Monitor the availability of free and easily-accessible authorized digital geographical names data as it is seen as a key driver in encouraging the use of nationally-standardized geographical names*

This action item is relevant to aim IV of the Strategic Plan and Programme of Work which aims to “Enhance, nationally, regionally and globally, the maintenance and dissemination of standardized geographical names data (...)”. The general approach for this action item has been to compile existing data sources, check whether the data is free and easily-accessible, define a review mechanism and encourage more member states to provide authorized geographical names data.

A separate paper has been submitted to UNGEKN’s Session 2023 which describes the approach and the feedback provided by countries and the current status as well as the planned next steps. The main goal of the task has been to provide UNGEKN and all member states with an overview of all free and easily-accessible authorized digital geographical name data. The plan is to update the respective UNGEKN sub-website which contains links to geographical names databases for as many countries as possible: <https://unstats.un.org/unsd/geoinfo/ungekn/geonames.html>

Weblink: <https://wiki.gdi-de.org/display/wgtdfg/Subtask+1-iii-8> (for registered members only)

*Action item 1-iii-9: Organize workshops and on innovative, research and/or technical issues/topics like e.g. volunteered geographic information, crowd sourced data, Linked Open Data or speech technology*

The Working Group has agreed to promote the use of persistent unique identifiers as crucial element of consistent names data files and for, amongst others, Linked Open Data (LOD). The Working Group on Geographical Names Data Management and the Working Group on Publicity and Funding jointly organised a webinar ‘Linked Open Data Developments – What’s in for UNGEKN and its Experts?’ on 30 September 2022. It was the second in UNGEKNs webinar series focusing on topics relevant to implementation of UNGEKN’s Strategic Plan and Programme of Work 2021-2029 and provided an overview on the challenges and advantages of LOD and some implementation examples. The first webinar “Developing digital gazetteers using free and open-source software” was held on 10 May 2022. Further information on the webinars can be accessed through ‘2020-2023 Events’ compiled on UNGEKN’s website: <https://unstats.un.org/unsd/ungekn/events/>

Weblink: <https://wiki.gdi-de.org/display/wgtdfg/Subtask+1-iii-9> (for registered members only)

*Action item 1-iii-10: Evaluate and assess innovative methods to be used for Romanization, e.g. machine transliteration*

A systematic call in order to evaluate and assess innovative methods to be used for Romanization seems to be needed. The Working Group on Romanization Systems agreed to take care of this task.

Weblink: <https://wiki.gdi-de.org/display/wgtdfg/Subtask+1-iii-10> (for registered members only)



### **3. Interlinkages with and contributions to other action items from strategies 2 to 5 of the Programme of Work**

The following action items have been selected by the Working Group to have the highest importance and relevance for the issues related to geographical names data management.

*Action item 2-i-2: Interaction with UN-GGIM to be continuously reviewed and evaluated for upgrading the activity level in relation to over-arching activities, such as addressing the SDGs*

See reference to action item 1-ii-7.

*Action item 2-i-3: Work with UNECA to establish stronger and more permanent ties aimed to: (1) Increase national geographical names standardization in Africa (2) Re-activate the Gaborone Action Plan (GAP) initiated with UNECA, (3) Re-activate Africa GeoNyms project to provide free database/gazetteer software to countries in Africa*

See reference to action item 1-i-1.

*Action item 2-ii-6: Continue to communicate and liaise with existing groups and explore further effective ways of cooperation with: ICA, ICOS, IGU, IHO, ISO, OGC, PAIGH, SCAR (SCAGI), Unicode Consortium and ICANN*

It is obvious and recommendable that the Working Group has to maintain liaisons on a technical level with international standardization bodies like the Unicode Consortium regarding digital text encoding in the context of geographical names, the International Organization for Standardization (ISO) and the Open Geospatial Consortium (OGC) with reference to the development of exchange standards for geographical names information and to web (gazetteer) services for the provision of geographical names information through the Internet.

Since the last UNGEGN Session 2021 the Working Group convenor has been provided with ballot event notifications and new standard publications of the International Organization for Standardization's Technical Committee 211 Geographic information/Geomatics (ISO/TC 211). The Convenor is the liaison member of the ISO/TC 211. Most documents of ISO/TC 211 were addressed to general geographic information issues. Generally, the WG GNDM members have been encouraged to get in touch with national representatives in ISO, OGC to make aware of GN issues and in order to be informed about draft standards.

Regarding the Open Geospatial Consortium no activity related to geographical names can be reported.

Regarding Unicode the Working Group reviews character encodings published by the Unicode Consortium. The Working Group informs the Consortium of any additional characters required for geographical names in the Unicode standard. Since the past UNGEGN Session, Unicode has published versions 14.0.0 (September 2021) and 15.0.0 (September 2022) of the Standard, in total adding over 5000 characters, including seven new scripts (most for minority languages in south and south-east Asia) and over 4000 additional Sino-Japanese characters, for a total of 149,186 characters.

*Action item 3-ii-2: Review the current versions of UNGEGN publications, establish a plan to revise or add to them, and implement it*

See reference to action item 1-i-2.

*Action item 4-ii-9: Cooperate with academia, so that geographical name datasets collected (by academics, for example, historical or linguistic variants) are geo-referenced and linked to standardized datasets*

See reference to action item 1-i-2.



#### **4. Meetings of the Working Group since 2021**

Since the last 2<sup>nd</sup> UNGEGN session Working Group meetings were held virtually in October 2021, in April, September and November 2022 as well as in April 2023.

Within the formal UNGEGN website the section for the Working Group has been regularly updated.

Weblink: [https://unstats.un.org/unsd/ungegn/working\\_groups/wg2.cshtml](https://unstats.un.org/unsd/ungegn/working_groups/wg2.cshtml)

#### **5. Further actions for 2023 – 2025 (proposals)**

Further ideas for Workshops (virtual ones) shall be collected related to action item 1-iii-9. Concrete workshop ideas/proposals might be:

- Follow-up Linked Open Data workshop
- Geographical names data re-engineering due to SDG requirements

The Working Group is also keen to continue the discussions about a ‘Global Feature classification’. Preliminary ideas and information can be provided on request.

#### **6. Points for discussion**

##### **The Group of Experts is invited to:**

- (a) Take note of the report and progress made by the Working Group on Geographical Names Data Management with regard to the action items for Strategy 1 – ‘Technical Expertise’;
- (b) Express its views on the way forward concerning the Working Group’s work plan and the action items for Strategy 1 – ‘Technical Expertise’.