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**11<sup>th</sup> United Nations Conference on the  
Standardization of Geographical Names**

New York, 8 -17 August 2017

Item 6 of the provisional agenda\*

**Reports on the work of the United Nations Group of Experts  
on Geographical Names, its divisions, working groups and  
task teams since the Tenth Conference**

**Report of the Working Group on Toponymic Data Files and  
Gazetteers 2012-2017**

Submitted by the Working Group on Toponymic Data Files and Gazetteers \*\*

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## **Scope of Work**

To respond to UN resolutions and UN data needs, this Working Group on Toponymic Data Files and Gazetteers addresses various issues of toponymic data processing, including the creation, maintenance and outputs of toponymic data files (including gazetteer production) and aspects of toponymic 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 toponymic 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. The issue of appropriate definitions for gazetteers and data types and of general feature types/categories relates with the agenda of the Working Group.

## **Work plan**

The Working Group focuses on the following objectives:

- maintain liaison 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 toponymic information and to web (gazetteer) services for the provision of toponymic information through the Internet;
- maintain liaison with the United Nations Geographic Information Working Group (UNGIWG) in relation to UN developments and requirements;
- promote and support the geographical names database of the United Nations Group of Experts on Geographical Names (UNGEGN database);
- promote, complement and support the "UNECA Africa GeoNyms database/gazetteer initiative";
- promote and provide consultancy and technical advice to national standardization programs and to toponymic training courses including the development of multipurpose toponymic database solutions in the context of spatial data infrastructures. This comprises issues like the discussion of appropriate definitions for gazetteers and data types and of general feature types/categories for a global use;
- organize workshops in conjunction with UNGEGN Sessions or UN Conferences, focusing on topics like data modeling, database applications or lessons learned through national and international geographical names programs or projects, and, as required, provide presentations on such topics at the UNGEGN Sessions and upcoming UNCSGN;
- recommend content and structure of nationally produced authoritative gazetteers and toponymic data files in particular making use of the Internet;
- examine processes and recommend best practice for the exploitation and validation of volunteered geographic information and crowd sourced data as part of national toponymic standardization work.

## **Progress against the Work Plan since the 10<sup>th</sup> UNCSGN:**

The following points summarize activities occurring during 2012 - 2017:

*Objective 1 - liaison with international standardization bodies (ISO, OGC, Unicode)*

The Working Group convenor has been provided with all ballot event notifications and new standard publications of the International Organization for Standardization's Technical Committee 211 Geographic information/Geomatics (ISO/TC 211)<sup>1</sup>. Many proposals have been drafted, discussed and some finally adopted, but only few have direct impact on toponymic data files and/ or gazetteers. In March 2017 ISO/CD 19112:2017(E) - Geographic information – Spatial referencing by geographic identifiers has been updated. This document defines the conceptual schema for spatial references based on geographic identifiers. It establishes a general model for spatial referencing using geographic identifiers and defines the components of a spatial reference system and of a gazetteer. However, the new content on the gazetteer structure has been put together by the geospatial community supporting general use cases. The concerns expressed by the Working Group in 2012 (see below under OGC) have not been accepted. Generally, the gazetteer structure is one of many possible publication methods for geographical names data. Although it is assumed that the updated ISO/CD 19112:2017(E) won't have a huge impact on the geographical names data provision – reflecting the complexity of the named place concept – it will be assessed by the Working Group.

Since 2012 the Convenor monitors the implementation of geographical names data services compliance with the COMMISSION REGULATION (EU) No 1089/2010 of 23 November 2010 - implementing Directive 2007/2/EC of the European Parliament and of the Council as regards interoperability of spatial data sets and services.

Concerning the Open Geospatial Consortium (OGC) Best Practices Document: Gazetteer Service - Application Profile of the Web Feature Service Candidate Implementation Standard (OGC 11 122r1)<sup>2</sup> . No further activity can be reported since 2012. Generally, the Working Group expressed concerns about keeping ISO 19112 in this updated WFS-G (Best Practice) document, and by extension keeping terms like 'LocationInstances', 'geographicIdentifiers' etc. The OGC Gazetteer Best Practice document is still available at: <http://www.opengeospatial.org/standards/requests/83>

The Working Group's contacts with the Unicode Consortium were re-established prior to the 26<sup>th</sup> Session of UNGEGN. The Working Group reviews character encodings published by the Unicode Consortium required for geographical names and informs the Consortium of any additional characters required for geographical names in the Unicode standard. The latest version 9.0 was published on 21 June 2016. Unicode 9.0 adds exactly 7,500 characters, for a total of 128,172 characters, covering 135 scripts. These additions include six new scripts and 72 new emoji characters. The new scripts and characters in Version 9.0 add support for lesser-used languages worldwide. (<http://www.unicode.org/versions/Unicode9.0.0/>). Version 10.0.0 is currently in beta version with a planned publication in mid-2017; this version adds a further 8518 characters for a total of 136,690 characters, including 4 additional scripts (Masaram Gondi, Nushu, Soyombo and Zanabazar Square) and 56 emoji.

### *Objective 2 - liaison with the UN Geographic Information Working Group (UNGIWG)*

The Convenor has not participated at 15th UNGIWG Plenary Meeting, Monday, August 3, 2015 (All day) to Wednesday, August 5, 2015, UNHQ, New York – USA, and no other activity of the Working Group can be reported.

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<sup>1</sup> The Convenor is the liaison member of the ISO/TC 211

<sup>2</sup> The Convenor is registered as an observer for the Open Geospatial Consortium Standards Working Group (SWG) for developing a Gazetteer Profile of a Web Feature Service (WFS).

One of the objective of the Center of Excellence for UN Spatial Data Infrastructure (CoE4UNSDI), an initiative being led by the Office of Information and Communication Technology (OICT) of the UN Secretariat, has been to set up a gazetteer framework project as an important initial element of the UNSDI. With the support of UNGEGN, the convenor of the Working Group joined the Science and Technical Advisory Group (STAG) of the UNSDI gazetteer framework project. The purpose of the STAG has been to review the scientific and technical directions taken by the Project Leader and to ensure that technical decisions are compatible with the environments into which they may eventually be delivered. The STAG met by telephone conference only once and its activity has been stopped in 2013 as the gazetteer framework project in Indonesia has been stopped.

In a broader UN context the Working Group recognized the importance of co-operating with the UN initiative on Global Geospatial Information Management (GGIM) being promoted by the UN Statistics Division since 2011. UN-GGIM is about bring together the integration of geospatial and statistical information for better decision making and to address key global challenges. The Convenor has been very much involved in activities of UN-GGIM from 2014- today.

In both communities, UNGEGN and UN-GGIM, geographic information, as an underpinning enabling infrastructure, is used in general or with a distinct relation to geographical names. Even though the similar terms “geographical” and “geospatial” are found in the titles of the two organizations, the actual connection between UNGEGN and UN-GGIM thus far has been limited, and the potential for sharing work, avoiding overlap, and agreeing areas of common interest has not yet been realized. In order to foster the relationship between UNGEGN and UN-GGIM the Convenor contributed to the document “Relationship of UNGEGN with UN-GGIM – “Building bridges” proposing a cooperation model.

#### *Objective 3 - promote and support the UNGEGN database*

The Working Group reviewed UNGEGN’s World Geographical Names Database regularly and contributed to requests for updates and reviews for the UNGEGN website: <http://unstats.un.org/unsd/geoinfo/UNGEGN>

#### *Objective 4 - promote/support the UNECA “Africa GeoNyms database/gazetteer” initiative*

The Working Group promoted the UN Economic Commission for Africa (UNECA) initiative at meetings, conferences and toponymic training courses and outlined the provision of a free tool to create names databases, particularly within the context of an African spatial data infrastructure. Within the international toponymy course targeted at the countries of the UNGEGN Africa-East division and held in Antananarivo, Madagascar, from June 17 – 21, 2013 UNECA supported the lecturing team. The GeoNyms database software package was used during the preparation and conduct of the technical workshop within the toponymy course. It was used during the UNGEGN-co-organised and sponsored International training course for trainers in toponymy, September 15-17, 2014 in Oran, Algeria, by the Centre National de Recherche en Anthropologie Sociale et Culturelle (CRASC Oran as well.

The benefits for the African countries using GeoNyms and the statistical value of geographical names are obvious as well as the technical approach fits very well into the current global geospatial initiatives (like the Global Geospatial Information Management – GGIM).

Unfortunately, no activity has been identified by the Convenor at UNECA to evolve the software in order to make implementations sustainable.

*Objective 5 - promote and provide consultancy and technical advice*

Through toponymic training courses, 2013 in Antananarivo, Madagascar, 2014 in Oran, Algeria, and 2017 in Rio de Janeiro, Brazil, the Working Group facilitated consultancy and gave technical advice for the establishment of multipurpose toponymic database solutions in the context of spatial data infrastructures. Within these courses the Convenor is responsible for lecturing various issues of toponymic data processing, including the creation, maintenance and outputs of toponymic data files (including gazetteer production) and aspects of toponymic 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 toponymic 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.

The European UNGEGN experts provided expertise for commenting and discussing a draft recommendation for content of the theme ‘Geographical Names’ provided by UN-GGIM: Europe Work Group A on Core Data. This draft aims to “help decision makers (from governments, data producers, national coordination bodies, etc.) to define their policy regarding the improvement of existing data and production of new geospatial data”. It proposes core recommendations and good practices in addition to the (technical) INSPIRE Data Specification on Geographical Names – i.e. to recommend solutions/approaches for issues which have not been solved within the INSPIRE Data Spec GN. Some of the GN issues have been tackled by the so-called ELF project (European Location Framework promoted by EuroGeographics), but not always to the satisfaction as UNGEGN expert. The activity is still ongoing and the recommendation has not yet been adopted by UN-GGIM: Europe. The following documents have been referenced:

- INSPIRE Data Specification on Geographical Names – Technical Guidelines 3.1: <http://inspire.ec.europa.eu/id/document/tg/gn>
- European Location Framework (ELF) Data Specification (chapter 5.3.6): [http://elfproject.eu/sites/default/files/ELF\\_DataSpecification\\_v0.12\\_20160328.pdf](http://elfproject.eu/sites/default/files/ELF_DataSpecification_v0.12_20160328.pdf)

Concerning the EuroGeoNames (EGN) project its content has become part again within the European Location Framework (ELF), an EU-funded project coordinated under the umbrella of EuroGeographics. The ELF coordination team contacted the convenor and asked for advice on certain geographical names related topics. UNGEGN experts with affiliation to National Mapping and Cadastral Agencies were nominated to provide consultancy and advice if possible.

*Objective 6 - organize workshops in conjunction with UNGEGN Sessions or UN Conferences*

Within 27<sup>th</sup> Session of UNGEGN and 10<sup>th</sup> UNCISG, 30 July – 10 August 2012 the Working Group contributed to

- Demonstration of new gazetteers/databases on Tuesday, 2012 July 31, 13:15 – 14:15
- Discussion about web training courses on Thursday, 2012 August 2, 14:15 – 14:45
- Lunchtime workshop on Names boards – dealing with volunteered geographic information (VGI), crowd-sourcing, web harvesting on Friday, 2012 August 3, 14:00 – 14:45

Within 28<sup>th</sup> Session of UNGEGN, 28<sup>th</sup> April – 2<sup>nd</sup> May 2014, the Convenor contributed to

- Meeting on Operational Improvements of UNGEGN, Tuesday 29<sup>th</sup> April, 2014, 18:15 hrs.
- Strategic Meeting UNGEGN and UN-GGIM, Friday, 2<sup>nd</sup> May 2014, 08:00 hrs.

Within 29<sup>th</sup> Session of UNGEGN, 25<sup>th</sup> – 29<sup>th</sup> April 2016, the Convenor contributed to the meetings of UNSD with UNGEGN-Bureau and Convenors

- on the operational model for UNGEGN on 25.04.2016
- on the relationship of UN-GGIM and UNGEGN on 26.04.2016

*Objective 7 - recommend content and structure for gazetteers and data files*

The discussion forum for several issues related to this WG TDFG has been updated:

<https://wiki.gdi-de.org/display/wgtdfg/Discussion+forum>

As presented at the 29<sup>th</sup> UNGEGN Session this discussion forum shall be utilized to investigate on tasks/issues assigned to the WG TDFG, amongst others:

- Forum 2 - definitions for gazetteers and data types (moderators: Ms. Laura Kostanski, Australia, and Ms. Vita Strautniece, Latvia)
- Forum 3 - general feature types/categories (moderators: Ms. Naima Friha, Tunisia and Mr. Teemu Leskinen, Finland)

Apart from this information in the online discussion forum the Working Group has recommended content and structure for gazetteers and data files through the toponymic training courses as well as through the Advanced Manual to be published on the occasion of the 11<sup>th</sup> UNCSGN.

It has been notified that many WG members are already registered, but not yet active. In order to activate the discussion within the online forum the Convenor will consider to

- populate parts of the “Relationship of UNGEGN with UN-GGIM – “Building bridges” proposing a cooperation model.
- populate the current work plan and propose amendments to be commented in the online discussion forum in advance of the next session.

If experts are interested in contributing to these issues, please contact the Convenor of the WG or the moderators for the respective topics mentioned on the webpage of the discussion forum.

Besides the discussion forum the new chapter on gazetteers in the Advanced Training Manual (which will be launched in August 2017) is worth to be mentioned. Furthermore, several WG members contributed articles about national efforts for databases and gazetteers to UNGEGN Bulletins.

*Objective 8 - examine processes and recommend best practice for the exploitation and validation of volunteered geographic information and crowd sourced data as part of national toponymic standardization work.*

As presented at the 29<sup>th</sup> UNGEGN Session this discussion forum shall be utilized to investigate on tasks/issues assigned to the WG TDFG, amongst others:

- Forum 1 - volunteered geographic information (VGI)/crowd-sourcing (moderator: Ms. Annette Torensjö, Sweden)

Apart from this information in the online discussion forum the Working Group has not yet taken any further actions since the last UNGEGN session to examine processes or to recommend best practices.

### **Decisions of the 29<sup>th</sup> UNGEGN relating to the Working Group**

*Decision 29/108: Activities relating to the Working Group on Toponymic Data Files and Gazetteers*

The United Nations Group of Experts on Geographical Names:

[...]

*(h) Requested the Working Group, in conjunction with the secretariat of the Group of Experts, to validate and update the hyperlinks published on the website of the Group of Experts;*

*(i) Acknowledged that action needs to be taken to maintain and update the world geographical names database of the Group of Experts, and encouraged the submission of data to support this initiative.*

The Working Group tackled both activities. The hyperlinks published on the website had been revised and updated. The Working Group encouraged Member States to submit data for the world geographical names database of the Group of Experts through toponymic training courses and at conferences.

### **Meetings & further activities of the Working Group since 2016**

The last Working Group meeting was held within the Within 29<sup>th</sup> Session of UNGEGN on Wednesday, 27 April 2016, in Bangkok. The notes of the meeting are available through the Working Group website: [https://wiki.gdi-de.org/pages/viewpage.action?pageId=7569729&preview=/7569729/304971820/20160427\\_Minutes\\_WGTDFG%20Agenda\\_Bangkok\\_UNGEGN-29\\_v1.pdf](https://wiki.gdi.de.org/pages/viewpage.action?pageId=7569729&preview=/7569729/304971820/20160427_Minutes_WGTDFG%20Agenda_Bangkok_UNGEGN-29_v1.pdf)

Within the UNGEGN website the section for the Working Group has been regularly updated. The section is accessible through: <http://unstats.un.org/unsd/geoinfo/UNGEGN/wg2.html>

Members of the Working Group participated in the following meetings and conferences (in chronological order):

- UN-GGIM 4th High Level Forum, Addis Ababa, Ethiopia, 20-22 April 2016
- Geospatial World Forum, Rotterdam, The Netherlands, 23-26 May 2016
- Sixth Session of UN-GGIM, UN Headquarters, New York, 1-5 August 2016
- The 33rd International Geographical Congress, Beijing, China, 21-25 August 2016
- UN-GGIM International Forum on Geospatial Information and Services for Disasters, Bridgetown, Barbados, 4-5 September 2016
- UNGEGN Arab Division of experts on geographical names Meeting 9-11 May 2017, Ryad, Saudi Arabia
- 11<sup>th</sup> International Congress of Gis and Geospace Applications Geo-Tunis from 25 to 29 April 2017 in Tunis: The Vice-Chair of UNGEGN gave a presentation entitled: "The

geographical names, part of our cultural heritage: The role of the UNGEGN in their preservation"

- UN-GGIM-Europe Plenary Meeting on 7-8 June 2017 in Brussels. The Vice-Chair of UNGEGN and member of this Working Group gave a keynote about UNGEGN.

### **Upcoming Actions for 2017 – 2019**

- The Working Group will assist the UNGEGN Bureau in co-operating with the UN GGIM committee in order to emphasize, promote and support UNGEGN tasks and activities.
- The Working Group will monitor the availability of free and easily-accessible authorised digital geographical names data as it is seen as a key driver in encouraging the use of nationally-standardised names.
- The Working Group will consider a review of the 2007 UNGEGN Technical reference manual for the standardization of geographical names co-ordinated with the Working Group on Publicity & Funding.
- The Working Group will continue to support toponymic training courses, in 2018 very likely to be conducted in the Philippines.
- The Working Group will contribute to and/or participate at international conferences, congresses and meetings.
- The Working Group's websites will be updated regularly.
- The Working Group will update its work plan.