IGF

Internet Governance Forum

IGF 2018
Best Practice Forum on Local Content

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Draft output report

1 November 2018

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Executive Summary

[to be added]

1. Introduction

1.1. Framing the IGF Best Practice Forum on Local Content

One of the key outcomes of the World Summit for the Information Society (WSIS) was the Internet Governance Forum (IGF). The IGF is a global forum where governments, civil society, the technical community, academia, the private sector, and independent experts discuss Internet governance and policy issues.[1] The annual IGF meeting is organized by a Multistakeholder Advisory Group (MAG) under the auspices of the United Nations Department of Economic and Social Affairs (UN DESA). The 13th annual IGF meeting takes place in Paris, France, from 12 to 14 November 2018.

The IGF Best Practices Forums (BPFs) bring experts and stakeholders together to exchange and discuss best practices in addressing an Internet policy related issue in a collaborative, bottom-up process. The BPFs are an answer to the call for intersessional work and more tangible outputs of the IGF.

The IGF Multistakeholder Advisory Group (MAG)[2] approved local content as a topic for a Best Practice Forum leading into the 2018 IGF meeting. The BPF worked in an open and iterative way to produce this tangible best practice outcome.

Local content is a returning topic at the IGF and considered to be a challenge that could benefit from continued cooperation and coordinated effort of all stakeholders.

The **2014 Best Practice Forum on 'Creating an enabling environment for the development of local content'[3]** undertook an attempt to define 'local content' and studied what is needed to create an enabling environment from the perspective of users, the infrastructure and the law. In its conclusions, the 2014 BPF recommended to '*encourage regional cooperation and collaboration by organizing and sharing existing case studies of local content production and capacity building. A repository of such content would be a useful resource for Internet users'*.

The **2017 Best Practice Forum on Local Content 'Internet cultural and linguistic diversity as an engine for growth'[4]** demonstrated that content and services that are relevant for the local Internet user can contribute to the development of the local Internet and

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[1] IGF website: http://www.intgovforum.org
[2] IGF MAG: https://www.intgovforum.org/multilingual/content/about-mag
[3] BPF 2014:
http://www.intgovforum.org/cms/documents/best-practice-forums/creating-an-enabling-environment-for-the-development-of-local-content/412-bpf-2014-outcome-document-creating-an-enabling-environment-for-the-development-of-local-content
[4] BPF 2017: https://www.intgovforum.org/multilingual/index.php?q=filedepot_download/5005/1055

local digital economy: *"Content must be in a language that is understood by the local population, and deal with matter of local interest"*.

The IGF's **Policy Options for Connecting and Enabling the Next Billion - Phase I** (CENB I)[5] observed that *'the need to ensure that people are able to use the Internet according to their needs was reflected in many of the contributions. Providing access to the Internet is only the first step - once in place people must be able to use it. Ensuring availability and the ability to use applications, to stimulate the development of local content and services in all languages, and to implement strategies for safeguarding access to people with disabilities were some of the issues identified by the community.'*

The IGF's **Policy Options for Connecting and Enabling the Next Billion - Phase II** (CENB II)[6] pointed out that providing meaningful access to the Internet requires ensuring that people can both consume and produce content, and that *'access inequalities and barriers like content availability not only affect those in developing countries more profoundly, but also those in rural areas as well as cultural minorities, women, refugees, and disadvantaged groups.'*In addition, the CENB II identified several linkages between the United Nations' Sustainable Development Goals (SDGs)[7] and the availability of content, amongst other with SDG 4 (Quality of education), and SDG 16 (Peace and Justice).

The IGF **Best Practice Forum on Internet Exchange Points (IXPs)** in 2015[8] and 2016[9] pointed at the two-way relation between locally stored local content and the growth and development of IXPs and the local Internet Infrastructure, contributing to a more affordable local Internet of higher quality.

The IGF **Best Practice Forum on Overcoming Barriers to Enable Women's Meaningful Internet Access[10]** listed the *'availability of relevant content and applications as a barrier for meaningful access.'* Some of the testimonials in the report explicitly refer to the *lack of available content in the local language*.

In addition, local content has been the topic of numerous workshops and discussions at the annual meetings of the IGF since the first IGF in 2006.[11] In these meetings content creators and other stakeholders from various countries and regions have talked about their experiences in bringing their projects to life.

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[5] CENB I: https://www.intgovforum.org/multilingual/content/connecting-and-enabling-the-next-billion-phase-i
[6] CENB II:
https://www.intgovforum.org/multilingual/content/igf-2016-policy-options-for-connecting-and-enabling-the-next-billions-phase-ii
[7] UN SDGs: http://www.un.org/sustainabledevelopment/sustainable-development-goals/
[8] BPF IXPs 2015:
http://www.intgovforum.org/cms/documents/best-practice-forums/creating-an-enabling-environment-for-the-development-of-local-content/582-igf-2015-bpf-ixps/file
[9] BPF IXPs 2016: https://www.intgovforum.org/multilingual/content/bpf-ixps
[10] BPF Gender and Access 2016:
https://www.intgovforum.org/multilingual/content/bpf-gender-and-access-2016
[11] IGF 2016, Local Content and Sustainable Growth; IGF 2014, Creating an Enabling Environment for the Development of Local Content; IGF 2014, Building Local Content Creation Capacity - Lessons Learned ; IGF 2013, Encouraging Locally Relevant Content to Grow the Internet

1.2. Local Content [12]

Despite the rapid growth of the Internet and the considerable improvement of access in developing and remote areas, Internet uptake seems not to evolve at the same speed and keeps lagging behind in some regions. Access and cost are only two of three factors affecting Internet growth. The third one is the availability of locally relevant content and services. Having the possibility to access the Internet is, by itself, not a sufficient motivation to go online. People start using the Internet because they expect and experience that the Internet is useful and interesting for them.

The second draft of UNESCO's proposed *Internet Universality Indicators*[13] puts forward that 'relevant content, including which is generated locally and concerned with local issues, is necessary if people want to use the Internet in order to improve their quality of life or livelihoods, and to contribute to national development.'

For the local Internet, and in extension a local digital economy, to develop the content and services accessible and provided over the Internet must be relevant for the local Internet user. Content must be in a language that is understood by the local population, and deal with matter of local interest. Local content creators are best placed to understand what is relevant for their own community and local entrepreneurs well placed to target the local market with online services.

An enabling environment that facilitates, encourages and stimulates the development of locally relevant online content and services depends on different factors, amongst other the availability of content in the local language; the digital literacy and skills of the locals, and presence of support and guidance for those who need help; the possibility to monetize local content and services and related issues such as IP and copyright, and payment systems; the infrastructure for Internet access and local content distribution, and related, the availability of broadband, local hosting and Internet exchange points; access to information and freedom of expression; etc. The cost of access is a critical factor - when the only form of access is costly metered mobile broadband there is a strong chilling effect on local content creation.

The European model of the Public Service Media (that since 80 years organize a transfer of resources from the broadcasters to creative industries and creators and that is the largest financer of local production of contents in local languages (including in minority languages) is an interesting model to be considered. In some countries such as the UK and Italy the

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[12] The important role of relevant local content for the development of a local Internet, and in extension a local digital economy, was a length discussed by the BPF in 2017. This section is only a brief summary.
BPF Local Content 2017:
https://www.intgovforum.org/multilingual/index.php?q=filedepot_download/5005/1055
[13] https://en.unesco.org/internetuniversality

mandate of Public Service Media has been extended to cover the production of digital contents, in addition to the traditional production of TV and radio programmes.[14]

1.3. Focus of the 2018 BPF on Local Content

The 2018 BPF on Local Content builds on the work of the BPF in 2017 that discussed the relation between the development and growth of a local Internet and the availability of content and services that are relevant for the local Internet user. This year's BPF intends to take a next step and focus on the local development content and a local content value chain.

"The BPF intends to look at the needs of SMEs, startups, and content providers at the local and national level, as well as explore what hinders international and global providers of content and services from offering content in specific countries, regions and areas. Special attention will go to the developing countries' perspective, both with respect to building up a local content 'industry' and enabling local users to access content offered by global providers." (from proposal for a 2018 BPF on local content, link)

The proposed UNESCO Internet Universality Indicators are also concerned with the availability of locally-generated content within and about the country, which should be assessed with reference to the proportion of individuals generating online content. In addition, it is said that 'the availability of content in languages which are used by local populations is also critical to the vanlue of Internet access, particularly for minority language speakers.'[15]

1.4 Methodology and acknowledgements

This document reflects the work of the 2018 BPF on Local Content. The BPF outcome document is the result of an open and iterative process during the months preceding the 2018 IGF meeting in Paris, France, 11-14 November 2018. The structure and the content of the document were developed through a series of open and collaborative discussions with interested stakeholders, on an open mailing list[16], virtual webex meetings[17], and a BPF face-to-face meeting during the IGF in Paris.

A draft of this output document was published on the IGF website for public input prior and during the IGF meeting. The BPF Local Content workshop[18] at the 2018 IGF meeting in Paris wan an opportunity to engage with the IGF community present and participating

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[14] See UNESCO Convention 2005 - December 2017 meeting of the Intergovernmental Committee - Reports of civil society organisations on their activities (pages 48 to 61) DCE/17/11.IGC/6REV
https://en.unesco.org/creativity/sites/creativity/files/sessions/11igc_6_civil_society_reports_en.pdf
[15] https://en.unesco.org/internetuniversality
[16] https://intgovforum.org/mailman/listinfo/bpf-localcontent_intgovforum.org
[17] See meeting reports at https://www.intgovforum.org/multilingual/content/bpf-local-content-0
[18] Link to be added

remotely. Testimonials, discussions and feedback on the BPF draft document served as input for the final BPF output document.

Acknowledgements
[to be included]

2. Developing a Local Content industry / value chain

2.1. Introduction - a sustainable local content value chain

Inspired by its intersessional work and the discussions at the BPF Local content workshop at the 2017 IGF meeting, the BPF Local content in 2018 decided to focus on both enabling **a sustainable local content value chain, and the economic viability of creating and providing locally relevant content**.

The BPF participants, from different parts of the world and with different backgrounds, discussed how local content is created and what should be understood by a sustainable local content value chain. They observed three "realities" related to the local creation of local content[19]:

1. New self-sustaining models for local content creation:
    Local businesses, entrepreneurs, SMEs, etc. develop their own new models to create and commercialise content and be self-sustaining. New companies and start-ups are well placed to test innovative models, but also existing companies can search and develop new ways to create and commercialise local content.

2. The development of an enabling environment for local content creation:
    Numerous policies, projects, and initiatives in all parts of the world contribute to the creation of an enabling environment for the development of a sustainable local content industry. There's a broad spectrum of examples, such as IP legislation to protect online content of local creators[20], initiatives to provide affordable local hosting to local content producers[21], etc., but also schemes and programmes providing support to start-ups, SMEs, etc. to help them become self-sustainable.

3. Existing models promoting, supporting or subsidizing local content creation:
    Existing models in legislation, regulation, incentives, international or national policies etc. have as goal to promote, support, and subsidize the local creation of local online content. An important part of these models are particularly focused on or limited to

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[19] BPF Virtual meeting I, 6 July 2018,
http://www.intgovforum.org/multilingual/filedepot_download/5005/1307
[20] See also the work of the 2014 BPF Local content on this topic.
[21] The lack of affordable local hosting and related issues are discussed in the report of the 2017 BPF on Local content.

the creation of local online content of a cultural and educational nation and the transition from traditional media to digital platforms.

These three "realities" are further discussed in the following sections and illustrated with experiences and best practice examples from different sectors and parts of the world.

[note: the examples and best practices in the following sections will be further updated with case studies brought to the attention of the BPF, after the publication of the draft report on the IGF's comment platform and during the workshop ot the BPF Local content at the IGF meeting in Paris - see also section 3]

2.2. "New models" and initiatives

'The expansion in the use of mobile phones and other affordable devices has enabled a drastic reduction in both costs and working times across all the links in the value chain, which has been especially beneficial for new entrants - digital artists, self-distributing creators, electronic publishing houses, creative platforms, etc. All these are "born digital", as it were, and are hence much faster than conventional players. The challenge encountered by these actors is not related to the need to migrate a traditional infrastructure and business model, but rather due to the fact that regulations are not always adapted to their way of working, and artistic recognition still tends to be overly tied to more traditional circuits.'[22] While the preceding text specifically relates to content creation of an artistics and cultural kind, this reality is also true are also true for other types of local content creators.

'In China, more than 600 films are are made each year, but only around 300 of them make it to movie theaters. Many talented filmmakers don't have an opportunity to produce movies.' iQIYI - a Chinese provider of online content - started building a new ecosystem to share movies over the Internet. 'This approach is giving many talented, well-educated and highly skilled young professionals and small companies an opportunity to produce films and to make money from their work.' The users base of iQIYI is much larger than that of traditional TV stations or cinemas, what is a great opportunity to encourage young people to become real filmmakers.[23]

Examples
- Supporting the collection and creation of online news: www.infobae.com and Infobae Red de Periodistas ;
- Success stories of local content supporting the development of a local business: (e.g. https://www.youtube.com/user/locosxelasado);

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[22] UNESCO Global Report 2018 - Cultural Policies in the age of Platforms, p 76
[23] iQIYI on China's booming online film market,
http://www.wipo.int/export/sites/www/wipo_magazine/en/pdf/2016/wipo_pub_121_2016_05.pdf

- Youtubers in the Arab region, for examples Simo Sedraty or Mustapha El Fekkak alias Swinga[24], https://www.youtube.com/channel/UC9JyBC7MshDg1uTyhm3UX3ghttps://www.youtube.com/channel/UC9JyBC7MshDg1uTyhm3UX3g

2.3. Creating an enabling environment, creating opportunities

Solving infrastructure issues

Several infrastructure issues can hinder or slow down the development of a local content value chain. For example the lack of affordable local hosting opportunities in many African countries hampers the local development of new content or limits the possibilities to digitise and bring existing local content online (e.g. existing analogue content of local broadcasters). Also the presence of one or more good working Internet Exchange Points (IXPs) in a country allows to handle local traffic locally and contributes to a reduction of the costs of the internet communication and an increase of quality and speed for users.[25]

ASBU (Arab States Broadcasting Union) and AUB (African Union of Broadcasting) have signed an agreement to launch a platform of satellite IP based distribution of audiovisual contents, that will allow all countries of the continent to exchange contents through a very flexible and low cost and reliable infrastructure, based on the system called MENOS.[26]

IDNs and Universal Acceptance

Universal Acceptance (UA) is the concept that all domain names and email addresses should be treated equally. Under universal acceptance, all syntactically correct domain names and email addresses are accepted, validated, stored, processed and displayed correctly and consistently by all Internet-enabled applications, devices and systems. Internationalized Domain Names (IDN), i.e. domain names in non-ASCII scripts, are a broad

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[24] 'Les youtubers marocains: Questions à Mustapha El Fekkak, Alias Swinga, youtubeur et créateur de séries web, https://www.lavieeco.com/news/maroc/societe/les-youtubeurs-marocains-questions-a-mustapha-el-fekkak%E2%80%85alias-swinga-youtubeur-et-createur-de-series-web.html ; https://www.huffpostmaghreb.com/2017/03/07/video-aji-tfham-swinga_n_15195384.html

[25] See: 'The relation between local content, Internet development and access prices', UNESCO, OECD, Internet Society, 2011, https://en.unesco.org/sites/default/files/local_content_study.pdf ; and the reports of the IGF BPF on Internet Exchange Points (IXPs) in 2015 and 2016.

[26] See articles http://www.asbucenter.dz/schedule/asbudoc/_1043-2018-tech_24/ASBU%20-%20Cloud_Feb_2018.pdf ; https://www.uar-aub.org/single-post/2018/10/28/An-unprecedented-content-exchange-network-Un-r%C3%A9seau-in%C3%A9dit-d%C3%A9change-de-contenus ; http://www.newworklab.com/2016/10/29/5-conseils-de-simo-sedraty-aux-entrepreneurs/

category of identifiers that require special processing that is not thoroughly implemented. UA is a foundational requirement for a truly multilingual Internet, one in which users around the world can navigate entirely in local languages.[27]

While at first sight the Email Address Internationalization (EAI) seems only loosely connected with local content, that is influenced only by universal acceptance of the IDNs, it should be noted that the major factor that hinders the sale and deployment of non-ASCII domain names is the fact that internationalized email addresses, that are associated with an internationalized domain, are rejected by most email applications. So, until the email servers are unable to accept non-ASCII characters there will be no great motivation to buy an IDN and create a site on it.

In February 2015, the ICANN community created the Universal Acceptance Steering Group (UASG)[28], tasked with undertaking activities that will effectively promote the universal acceptance of all valid domain names and email addresses. Since then, UASG has developed a library of documents for developers, IT professionals and educators spanning the breadth of UA-related topics and ranging from high level introductions to deeply technical specifications and best practices. Because of UASG efforts, stakeholders in India, Egypt, Brazil and elsewhere have developed training curriculum suited to their regions. UASG has also performed compliance testing of email systems, browsers and websites resulting in outreach and bug fixes.

Success relies not just on the outputs of the UASG, but also action by companies dedicated to the same values of worldwide empowerment. For example, Microsoft has offered products compatible with Internationalized Domain Names (IDNs) for many years; in collaboration with UASG, Microsoft now offers email solutions on multiple platforms that are compatible with Email Address Internationalization (EAI) standards and has assisted UASG in outreach to other email providers.

Also Governments can play a fundamental role in achieving universal acceptance of the Internet identifiers. One example is given by the Government of Rajasthan, who has launched a programme to provide all the resident population with an email address in the local Devanagari script[29]. This is an incredible incentive to people to use the internationalized email, but also to IT companies to fix their products and allow the internationalized email address to be recognized as a valid one and processed accordingly by the email servers. A similar initiative is being considered by the Government of Serbia, in the framework of promoting the use of the Cyrillic alphabet.

This topic and these activities are a very relevant example to consider in the BPF's 2018 work. Increased use of IDNs will facilitate the creation of customized and relevant localized content for consumers in various countries and regions across the world, especially in developing nations with predominantly non-English-speaking populations. Similarly, increased support for EAI will reduce barriers to non-English-speakers maintaining an online

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[27] Contribution Microsoft to BPF Local Content, October 12, 2018
[28] https://uasg.tech/
[29] https://currentaffairs.gktoday.in/rajasthan-state-offer-e-mail-ids-hindi-12201750775.html

presence using personal identifiers which are useful and meaningful to them and their communities. It should be noted that [research commissioned by UASG](#)[30] estimates that the increased opportunity from these technologies exceeds $9 billion. Whatever the final sum may be, these practices clearly empower businesses and consumers alike by fueling economic development in regions which currently have limited choice with respect to linguistically and culturally tailored domain names and content.

Offline content servers are now being created with affordable equipment such as the $35 Raspberry Pi to support access to and creation of local content in unconnected areas using the built-in Wifi of the server, smartphones and low cost tablets[31].

2.4. Policy initiatives to promote and support the local creation of local online content

Support for the development & distribution of local content and the digitization analogue content

The UNESCO Global Report 2018[32] notes in a section on Cultural Policies in the age of Platforms, that : 'At the production stage, the bulk of policies in recent years have focused on accelerating the modernization of specific sectors, such as books, music, film and video games. Broadly speaking, these measures have promoted the digitization of analogue industries, while encouraging the production of digital content and the consolidation of new enterprises through financial assistance and training.'

Under the title 'Creative Content, Supporting creativity and innovation in local content production for television, radio and new media' UNESCO's Programme for Creative Content aims at increasing the production and dissemination of culturally diversified content in the media by providing training opportunities to content creators, supporting local content production and encouraging local content distribution channels.[33]

'Still today the largest part of local/national contents that facilitates societal development, cohesion, and democracy are supported and financed by institutions or companies using Free To Air transmission (FTA) to reach their audiences/citizens. The FTA model has been one of the engines that have allowed in Europe and in other part of the world the flourishing of a sustainable form of audio-visual industry based on local creativity and able to provide local contents in the local languages. (....) [It needs] to be further explored and better defined

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[30] https://uasg.tech/2017/04/u-s-9-8-billion-opportunity-universal-acceptance-online-identities/
[31] See for example: 1worldconnected.org/wp-content/uploads/2018/02/Project-Tawasol-Tunisia.pdf
http://eduair.org http://solarspell.org http://kiwix.org
[32] https://en.unesco.org/creativity/global-report-2018
[33] http://unesdoc.unesco.org/images/0014/001447/144716eb.pdf

in the next WSIS, IGF and similar fora, [how] to set up a replicable model that could be shared in order to ensure that access to Internet will guarantee access to local, useful and needed contents, suitable for each population across the world, without discrimination of education race, or wealth. Among other things, this would mean that conditions today guaranteed by the FTA model (guaranteed through DTT and satellite) will be replicated over the Internet.'[34]

Examples:
- Since 2014 digital-only publishers and digital-only titles are eligible funding by the Canadian Book Fund;
- In 2016 France set up the Fund to Support the Digital Transition of Recorded Music, 'with the aim of promoting the modernization of companies in the sector.
- 2020 Strategy 'A Space for US All' designed by CBC/Radio-Canada in 2014 to provide the national public broadcaster with the responsiveness and stability needed to navigate a rapidly evolving media environment - the programme has placed particular emphasis on the distribution of local content via mobile and web platforms. [35]

Improving skills

Several countries and organisations take efforts to improve citizens' skills when it comes to accessing and analyzing the digital content available to them.

The Osouklou project in Ivory Coast motivates schools to produce local content. The projects offers webspace to the schools and provides training to students to blog, so that they can produce the content for their schools website.[36]

Prioritizing local content over International content

In some countries policy initiatives support the prioritization of local content over international content by local broadcasters.[37]

At the beginning of the year social network site Facebook announced it would start to prioritize local news and content in users' news feeds. Facebook impliedly sees local news content as being more relevant and of higher quality than non-local content.[38]

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[34] WISIS 2018, report of the workshop 'Free to Air as the enabler of original local content'

[35] Example mentioned in UNESCO Global Report 2018 - Cultural Policies in the age of Platforms, p 74

[36] Montresor Konan at BPF Local Content call 18 September 2018. https://www.osouklou.africa/

[37] see IGF Open Forum 2017 Local Content in the Media

[38] Greg Sterling in
http://www.lsainsider.com/facebook-says-it-will-prioritize-local-news-in-the-feed/archives,
https://www.adweek.com/digital/how-prioritizing-local-news-will-create-a-more-valuable-social-network/

Modernizing legislation to adapt to the digital era

A recent WIPO study on the audiovisual sector in a number of African countries highlights that 'piracy is perhaps the most intractable challenge confronting the audiovisual sector in the countries studied. In the digital age, piracy has graduated from black market DVDs to the sharing of films on USB drives and via social networks and online streaming services. It is affecting all distribution platforms, slowing the development of national audiovisual industries and threatening the livelihoods of creators.'[39]

The in 2016 proposed reform of EU copyright rules include measures 'in order to foster a better balance in the remuneration of different actors in the chain, as well as greater transparency in contractual arrangements between creators and online platforms, and broader availability of copyright-protected content in the EU and across borders.[40]

3. Case studies / BPF workshop report

- placeholder text -
- As mentioned higher, the BPF still welcomes additional experiences, examples and case studies, which can be added in the final version of the BPF output report that will be published shortly after the IGF meeting in Paris.

- A face-to-face session of the BPF Local Content at the 23th IGF meeting is scheduled on *Tuesday 13 November 2018 15:00 - 16:30 CET (UTC+1)*. All interested are warmly invited to join the discussions and share their experiences. Remote participation is possible for those not attending the IGF, check the IGF website remote participation details.

  Testimonials from an music and audiovisual entrepreneur from Nigeria, a local francophone producer from Ivory Coast, initiatives to create local content platforms for educational purposes in Armenia, IDN success stories, initiatives by African Broadcasters, an organisation promoting and supporting film production in Columbia, etc.

4. Conclusions & next steps

[to be discussed at the BPF's workshop]

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[39] http://www.wipo.int/wipo_magazine/en/2018/04/article_0004.html
[40] UNESCO Global Report 2018 - Cultural Policies in the age of Platforms, p 73

Annexes

Internet Universality Indicators (UNESCO)

second draft, May 2018, https://en.unesco.org/internetuniversality

THEME E – LOCAL CONTENT AND LANGUAGE

Relevant content, including content which is generated locally and concerned with local issues, is necessary if people are to use the Internet in order to improve their quality of life or livelihoods, and to contribute to national development. Defining and assessing local content is, however, problematic. People define content which they consider locally relevant in different ways. Language may be one of a number of potential indicators. Social media content posted by individuals may differ in this context from content on websites.

Questions E.1 and E.2 are concerned with the availability of locally-generated content within and about the country, and should also be assessed with reference to the proportion of individuals generating online content (Category R Question B.5).

The availability of content in languages which are used by local populations is also critical to the value of Internet access, particularly for minority language speakers. Questions E.3 and E.4 are concerned with the availability of content in local languages, and should be assessed with reference to contextual indicator 2.D.

> **E.1 How many Internet domains and servers are there within the country and is this number growing?**
> **Indicator:**
>> Number of registered domains (including both ccTLDs and gTLDs) per thousand population
>> Number of servers per million population
>
> **E.2 Is a substantial and growing volume of content about the country available online, including locally- generated content?**
> **Indicator:**
> Number of articles/words concerning the country in Wikipedia or an equivalent source,[18]compared with other countries, including source (proportion generated in-country)
>
> **E.3 Are domains and online services available which enable individuals to access and use local and indigenous scripts and languages online?**
> **Indicators:**
>> Availability of Internet domains and websites in local scripts
>> Availability of local languages on major online platforms
>> Availability of mobile apps in local languages
>> Availability of content on government websites in all languages with significant user groups within the population
>> Proportion of content generated in and read by individuals on leading online services, by language, compared with proportion of total population using each language as their principal language