Cyber-Blocked

Restrictive
Limitations
and Policies
of Internet
Access

in Yemen

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Introduction

A few decades ago, nobody could not have anticipated the tremendous transformation that the Internet would exert in our lives, and in the media in particular. At first, it was thought that it would pose a threat to traditional media industry. However, the information revolution occasioned a drastic change in media performance. Journalists proved capable of coping with this revolution which brought about a radical change in the media.

Today, the Internet plays a vital role in improving media performance, whether in the large-scale proliferation of information, facilitating research, or in reaching a wider audience. Indeed, a journalist would be surprised at the thought of carrying out the duties of his job in a milieu where no Internet service is accessible.

Given this significance of the Internet, the various forms of media have made use of it to cope with the information revolution. Most media outlets have launched their own websites.

Realizing this fact, political authorities have increasingly employed the Internet as a tool to include website blockages, and strict censorship of journalistic materials published online or shared on social media networks.

Free and unrestricted Internet access has become a disturbing issue to Yemenis, particularly to journalists for whom the Internet is indispensable.

The Internet service in Yemen is classified as very slow due to political, economic, and cultural reasons. This deprives journalists of a crucial resource and an effective tool of reaching the audience at the local, regional, and international levels.

It is no more logical that Yemeni journalists should be compelled to use low speed Internet connections, not exceeding 130 KB/second, not to mention service outages due to sabotage and disruptive acts as cables are targeted every now and then. In addition, journalists are vulnerable to penetration and online pirate attacks. Today journalists are required to exerts more efforts than ever before to ensure uninterrupted Internet access, and to demand putting an end to restrictions imposed on free and unsponsored access, including website blockages and intentional disruptive acts. Local and international organizations working in the field of advocating freedom of the press are called upon to support Yemeni journalists to find alternative ways of securing serviceable speed Internet connections at reasonable costs, free from censorship and control practices.

This report attempts to identify the negative consequences of the poor and low-speed Internet service on the media profession in Yemen. It also documents violations, particularly acts of intimidation of journalists and restrictions imposed on media outlets such as website blockages and other forms of misuse of the Internet as a medium of threats and punishment. The report also deals with the issue of the low rates of Internet usage among Yemeni women and the subsequent negative effects this situation has on their access to information and awareness of their rights.

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Methodolog

Research involved the following stages:

1. Data collection and comprehensive review of available literature: local and foreign sources are reviewed, including documents and reports on the subject.

2. Field data: conducting interviews with a sample of respondents, including Internet and IT experts, journalists, leading media personalities, women leaders, and directors of organization working in the field of the Internet.

Internet Infrastructure in Yemen

Internet services in Yemen are focused in the principal cities, whereas most rural areas are still shut down from the cyberspace, except through 3G mobile phone data connections and social media network plans, provided by mobile phone operators.

Internet service systems operating in Yemen include ADSL, Wi-Max, Yahclick and mobile phone data systems.

In rural areas, 3G Internet access is provided by mobile phone operators, whereas the Wi-Fi service is provided by YemenNet. These services are generally poor and are encumbered with bothersome outages, intermittent coverage, etc. They quality of service varies from one area to the other, depending on the number of subscribers, signal quality (hardware shortages).

YemenNet is the exclusive Internet service provider in Yemen. YemenNet services are provided through the Fixed Line Network, which is available in the main cities connected by fiber optic cables. It is difficult to cover rural areas due to scarce resources, especially as the majority of rural population live in mountainous areas. Building up connections in those areas requires high-cost infrastructure works.

Wi-Max provides Internet services in Sana'a and Aden. It offers high speed broadband connections, with speed limits reaching up to 32 mbps. This service is considered a positive shift in the Internet market in Yemen, and offers solutions to problems associated with the cable networks.

YahClick: There were 600 subscribers to this service in 2014. It provides high performance satellite broadband service, anywhere in the country. It is a reliable service, offering uninterrupted Internet access, as it covers the country in its entirety, and functions independently of the local telecommunications infrastructure. YahClick employs cutting-edge satellite telecommunications technology. The signal is transmitted by YahSat, Y1B, which is the first satellite in the region to employ multi-signal broadband technology, using state-of-the-art Ka-

band satellite technology. The service has the advantage of cost-effective equipment, enabling subscribers to use small satellite dishes, in addition to affordable installation and maintenance costs.

With the introduction of the 3rd generation (3G) technology by mobile phone operators, Internet access was introduced in rural areas, albeit the service remains very primitive, due to intermittent and patchy coverage. The following factors account for the lack of adequate coverage:

- Service providers take into account the economic condition in target areas, the costs of providing the service, and profit rates. They particularly weigh revenues against covering operating costs especially in view of the absence of public power supply in rural areas. Service providers have to secure alternative power sources such as

generators, which require additional operational costs like fuel, and maintenance costs. Therefore, many sites covering a given area have been suspended.

- The infrastructure of many telecommunication service transmission sites have suffered in most cities and rural areas during the war, and much equipment has been damaged. This results in total or partial breakdown of service in those areas. Operator have demonstrated negligence, carelessness, and sheer inability to address this issue. Carrying out equipment maintenance and replacement is sometimes hindered by security concerns. Quite often, operators are incapable of replacement of worn-out and damaged equipment due to spare parts import restrictions imposed upon the telecommunications sector. The Internet service provided by all mobile phone operators is mediated by Yemen Net.
- Demographic distribution: rural areas are sparsely covered demographically. Highly populated areas are a rare sight. Justifiably, service providers do not risk providing the service in sparely-populated areas as revenues would not cover operational costs.
- To provide Internet services, service providers request submitting an application by the target community, signed by 2000 potential subscribers.

In addition, inadequate infrastructure, especially copper wires and cables, is a primary obstacle to the Internet service in Yemen. Other obstacles include government censorship, website blockages and bans, as well as government monopoly of the Internet as the government-owned YemenNet is the exclusive service provider. Private sector investment in the Internet industry is encumbered by restrictions that hinder providing high quality services, particularly the inability to build independent Gateways.

Yemen is currently connected to three submarine cables, one of which has been built out in Aden[1] recently.

- FALCON submarine cable has two landing stations in Yemen: Al-Ghaidhah in the east and Hodeida in the west.
- SeaMeWe-5 has a landing station in Hodeida.

In addition, a new submarine cable build-out is currently underway. It is supposed to be a qualitative addition and is expected to improve Internet services in Yemen if government monopoly is lifted and operators are allowed to build their own gateways.

- DARE submarine cable. The cable will be built out in May 2018. There will be two landing stations: Mokha and Socotra.
- The Africa-1 submarine cable build-out is expected to be completed in the fourth quarter of 2018. The landing station will be based in Mokha.
- Asia Africa Europe-1 AAE-1 build-out has been completed in Aden and is owned by 17 companies, including TeleYemen. This cable will remarkably increase the international capacity of the Internet in Yemen.
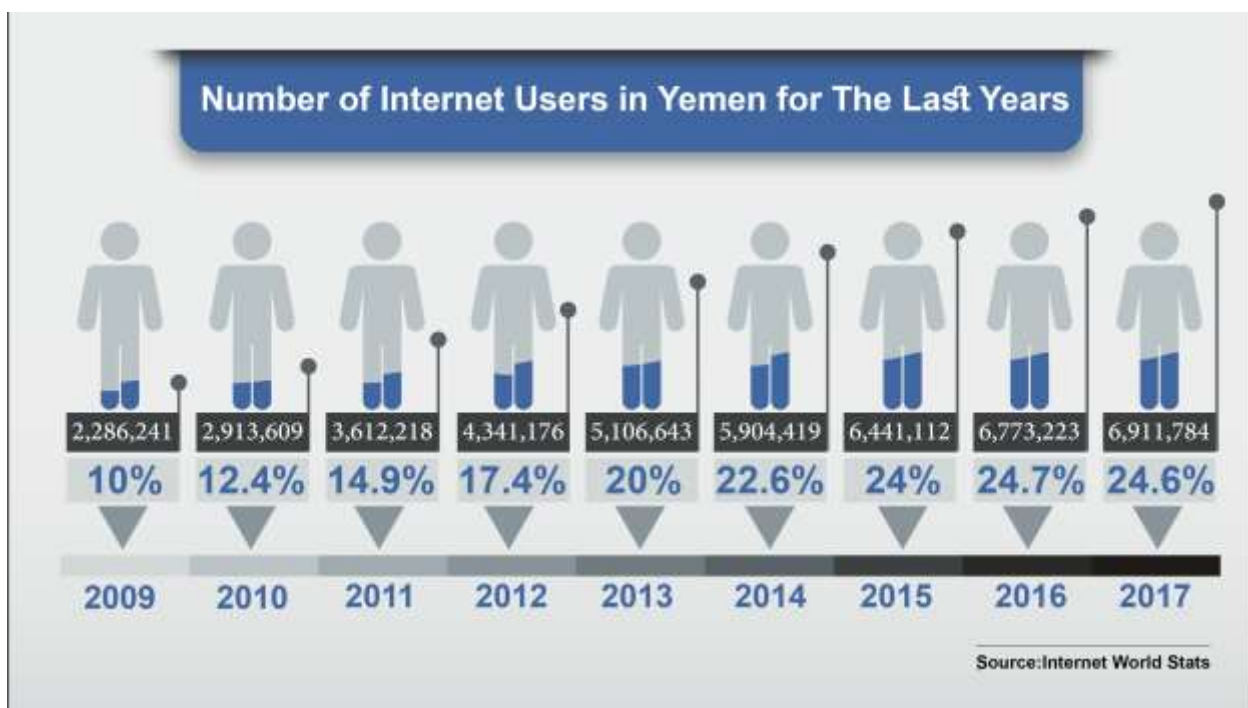
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[1] Blog of Director of the Yemen chapter of the Internet Society,

The major Internet problem lies in the local copper wire network connecting users and exchange centers, the use of low-quality cables, old equipment mostly in bad condition, and inadequate and routing path design, to say nothing of the filtering and control systems employed by TeleYemen through its Gateway.

Internet Usage in Yemen

According to June 2017 statistics, the number of Internet users in Yemen stood at 6,911,784 (24.6% of the population). This is the lowest Internet usage rate in the Middle East, in proportion to the population.[2] The Internet is out of reach for most of Yemen's poor population, especially in rural areas, where the service is entirely inaccessible.

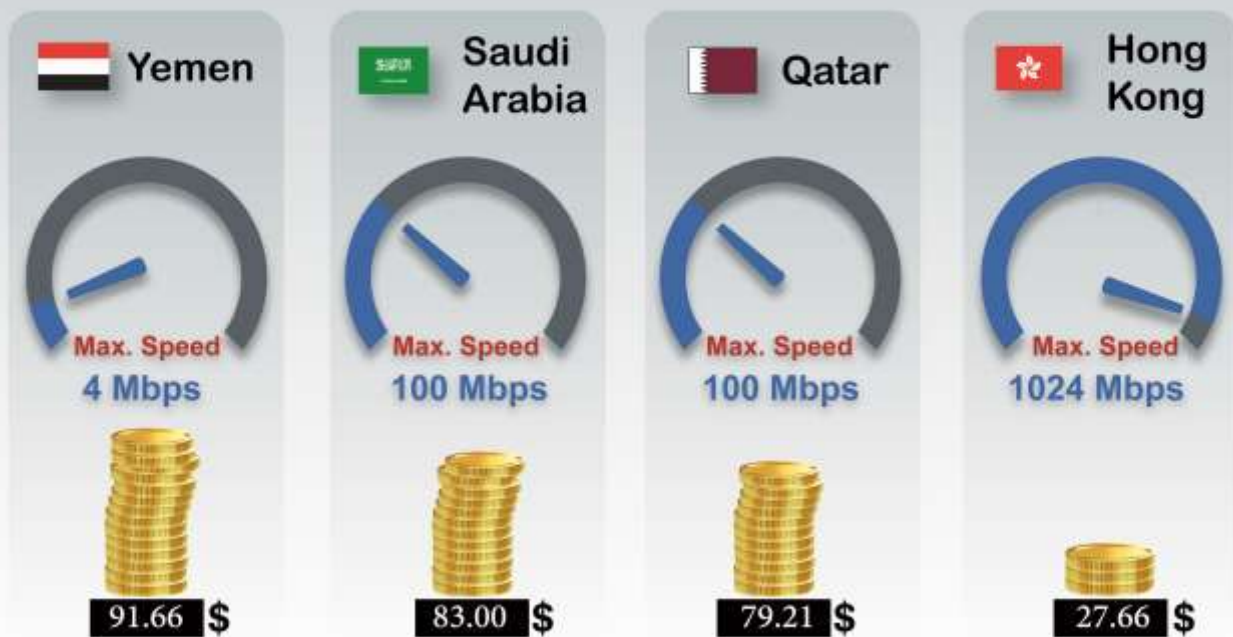The following figure shows the percentage of Internet users in Yemen (out of the total population) over the last years:[3]

Number of Internet Users in Yemen for The Last Years

Year	Users	Percentage
2009	2,286,241	10%
2010	2,913,609	12.4%
2011	3,612,218	14.9%
2012	4,341,176	17.4%
2013	5,106,643	20%
2014	5,904,419	22.6%
2015	6,441,112	24%
2016	6,773,223	24.7%
2017	6,911,784	24.6%

Source:Internet World Stats

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[2] Internet World Stats
[3] Ibid.

Internet Speed and Costs in Yemen

Low speed is a major obstacle to Internet access in Yemen. The service demonstrates both the lowest speed and most expensive rates, compared to other countries in the region and beyond. Statistics show that Yemen still provides 4 mbps home connections, while operators in other countries provide 1024 mbps home connections, i.e. 250 times faster than the corresponding service provided by YemenNet, as shown in the Table below. In addition, Internet service costs are very high compared to costs in the region and other countries. Operators in Hong Kong provide services 250 times faster than the highest speed provided by YemenNet, at a price four times less than that charged by YemenNet for the corresponding service.

Internet Speed and Costs in Yemen Compared to Other Countries

Yemen	Saudi Arabia	Qatar	Hong Kong
Max. Speed 4 Mbps	Max. Speed 100 Mbps	Max. Speed 100 Mbps	Max. Speed 1024 Mbps
91.66 $	83.00 $	79.21 $	27.66 $

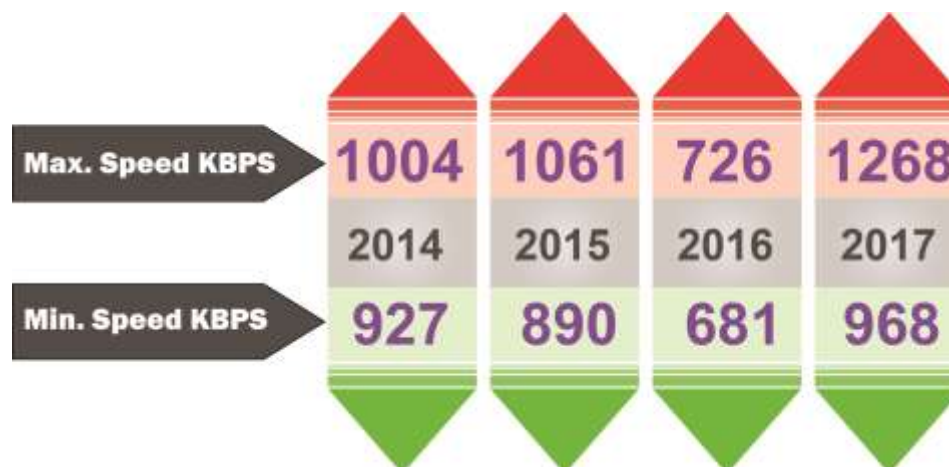# Slow Internet Connectivity and its Impact on Media Performance

Unlike other means of communication such as newspapers and TV channels, the Internet is the fastest and most cost-effective way to disseminate information or news. Other types of media would demand much higher costs, even as they fail to reach the same proportion of audience.

Following the ban imposed on many TV channels and newspapers in Yemen, the Internet has become the only cost-effective medium, which offers a space for journalists to practice their profession and reach large audience. However, low speed makes it difficult for them to browse the Internet or upload materials. It also deprives them of access to valuable resources which would be of great help to them in writing reports and news stories, as well as in covering daily events.

According to Akamai network, Internet speed in Yemen is the lowest in the world, (1.3 Mbps).[4]

According to a test conducted on December 18, using the Internet speed testing service, Fast.com, Yemen's Internet was operating at a download speed of 130 kbps (0.13 Mbps). This is ten times slower than its average speed, which is already slow. Intentionally slowing Internet speed is one of the measures employed by regimes to suppress the digital rights of users.

The following Table shows the highest and lowest Internet speed over the last four years according to Akamai:

Max. Speed KBPS	1004	1061	726	1268
	2014	2015	2016	2017
Min. Speed KBPS	927	890	681	968

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[4] Akamai

Journalist Experiences with the Internet Service

Mohammed Jaber, a journalist, describes a critical situation he experienced:

Mohammed ba Jaber: TV reporter: "Three months ago I covered a political event. After the proposal was submitted to a satellite channel, broadcasting the event was approved and included in the daily program map. More than three hours passed before materials could be sent due to low Internet speed. I was embarrassed, and the channel would not accept any new proposal. The main problem lied in the scope of information that I could work on due to restricted access to many news and news agency websites, despite the use of several proxies, which are often not safe. Failing to sending videos and photos in a timely manner significantly affects our work. After great efforts are exerted to obtain information, monitoring events and preparing items professionally, sometimes we fail to deliver the materials on time because of low Internet speed. This problem represents a waste of our efforts and time. However, we try to overcome it in various ways, such as sending low quality audio and video, so that we can upload them quickly, or by reducing an item length when there is a time constraint, especially when we experience delivery delays. Sometimes an item is delivered too late."

Wafeeq Saleh, journalist: "Internet services in Yemen are very poor. You can hardly carry out your media jobs. Restrictions to access imposed by the Ministry of Telecommunications further complicated this problem. Such issues and measures are time-consuming on the part of journalists. Low Internet speed doubles the time you spend on a certain task. We have resorted to proxy servers and programs. However, such solutions further slowdown already low speed connections. Our suffering is indeed perpetual."

Ali Al-Faqeeh, journalist and editor-in-chief: "Journalists can resort to alternative solutions to bypass websites blockages, but there are no alternatives to escape the inadequate Internet service. Personally I used to go to the office of a satellite channel subscribing to a satellite Internet service. I had to work at their office during my stay in Taiz and the short period I spent in Marib. The most feasible solution was to leave Yemen so that I could work normally."

Amani Bakharibia, Journalist: "Poor Internet services in Yemen significantly affect media performance. Low speed is the major obstacle. I experience this problem, which disrupts my work. I cannot browse the Internet, or follow news updates, whether online or on social networks. It is even difficult to send or receive email messages."

Internet Censorship and its Impact on Electronic Journalism

The authorities in Yemen exercise content control, based on social, political, and religious grounds. Arbitrary censorship is mainly due to the absence of a Telecommunications Regulation Authority in Yemen, which would be authorized to set the standards of control. In addition, YemenNet is the only ADSL service provider, which operates under the State-owned Public Telecommunications Corporation.

YemenNet was established in 2000 as a division of the Yemeni Public Telecommunications Corporation, while TeleYemen was a special dial-up service provider. This Internet policy in Yemen is meant to impose strict control over content browsed and proliferated in Yemen. YemenNet began to filter websites on the basis of rules and regulations set by the Ministry of Telecommunications based on social, religious and political grounds.
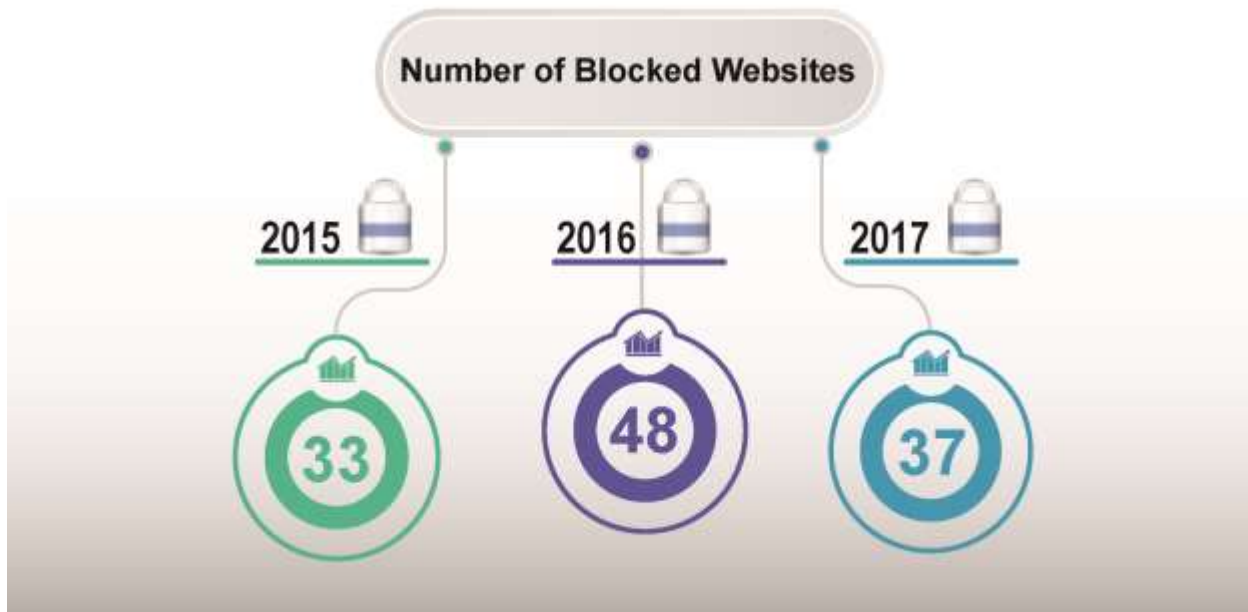
The first targets were pornographic, gambling and drug websites, as well as anti-Islam websites. Some political opposition websites were also blocked. Of course, proxy anonymizers were blocked, so that access of those websites by using third-party programs was difficult. Although the same standards continued to govern the regulations, the number of blocked websites increased for one reason or another.

Recently, as part of Yemen Net censorship plan, "net swiper", a filter used by governments that censor users, is activated.

After the Houthi militia swept the capital Sana'a and controlled state institutions, new restriction policies were imposed. All opposition news websites were blocked. The Ministry of Telecommunications in Sana'a, represented by Yemen Net, the sole Internet service provider in Yemen, blocked a large number of websites, including national, Arab and foreign websites. The Ministry also restricted access to those websites through privately-owned mobile phone networks, which operate in accordance with national legislation. When a user tries to browse a blocked website, either through a computer or mobile phone, an alert message is displayed on the screen, stating that the website is blocked by the service provider due to its inappropriate content. Previously, a (404 error) message was displayed to suggest that there was a technical error or server malfunction.

These restrictions had dire consequences on electronic press. The number of users declined significantly. Editing and updating website content became difficult. Editors also face difficulties in having access to adequate information due to restrictions imposed on source websites.

Figure   Showing   the   Websites   Blocked   by   the   Houthi   Group   [5]

Number of Blocked Websites

2015 — 33
2016 — 48
2017 — 37

Blockages of news websites has led to a decline in the number of users, and the concomitant declining revenues from Google ads. Local ads were completely stopped because of advertisers concerns and fears of the grip of the ruling authorities or due to dropping advertisers' income. News websites in Yemen rely on advertising as the main source of income to cover operating expenses since most of these websites are managed by individuals rather than by media organizations.

Alternatives Available to Electronic Press Journalists

With regards to electronic media run inside Yemen, of course, the government-owned Internet service provider can filter and control content using systems developed for this purpose. In recent years, especially as website blockages and filtering increased, ways to circumvent restrictions became common among Yemenis, particularly programs used to bypass censorship and using virtual private networks (VPN). These circumvention techniques enable users to bypass filtering and censorship systems set by the local Internet service provider. Yet, users shall

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[5] SEMC Reports on the Media Freedom in Yemen for the years 2015, 2016, and 2017

be careful and shall use only reliable VPN programs, since using some programs of unknown source can be risky.

Website blockages taught Yemenis to seek alternative ways to break the siege imposed on information in Yemen, to circumvent restrictions and have access to information. The simple techniques that have been employed proved successful in thwarting the relentless repressive attempts to impose a political straightjacket on Yemenis.

Wafik Saleh, journalist: "In my view, in the age of social media networks, modern media, and satellite channels, the attempt to silence dissident voices is a futile effort to reverse the positive gains in the freedom of expression in Yemen. Yemenis have a thousand ways and means to break the restricted access and share blocked content on Facebook, WhatsApp Instgram, and other social media networks."

Journalists resorted to sharing news on social media networks, especially Facebook, as an alternative to blocked news websites. An advantage of Facebook and other social media networks is the easy access to wider audience. This is evident in the increasing number of Facebook users, accessing news and other media pages.

Ali Al-Faqeeh, editor-in-chief of Al-Masdar Online, "Besides the ability of many users to bypass restrictions and blockages by using proxy websites and programs, news websites try to reach their audience through social media networks, such as Facebook, Twitter, Instgram, etc. The authorities dare not yet ban social networks. We have lost a lot of our in-country audience due to blockages, but we tried to overcome this problem by launching our pages on social media networks and reconnected to a large number of our readers, in addition to launching smart phone applications to keep our audience informed."

Top 10 most viewed Media Pages in Yemen

Top 10 Most Viewed Media Pages in Yemen

#	Page	Likes
1	Al-Mashhad Al-Yamani	2,835,896
2	Balquis Satellite Channel	1,838,404
3	Aden Live	790,428
4	Al-Saeeda Satellite Channel	641,604
5	Yemenia News	441,856
6	Aljazeera Net	420,846
7	Yemen Satellite Channel	412,259
8	Mareb Press	408,341
9	Yemen Press	350,226
10	Aden Al-Ghad	348,818

Yemeni Women's Access to the Internet [7]

The number of Yemeni women having access to the Internet is still very low due to many obstacles, including:

- Prevalence of illiteracy among women and digital illiteracy among educated women.
- Traditional social barriers in a patriarchal society which has no sympathy to women's rights and freedom. Indeed, Internet is viewed as a disruptive medium and a tool of moral corruption, especially with regards to women. This double standard ignores men and deprives women of access to the Internet. It reflects low awareness, discriminating social traditions, and disrespect for women's rights. Such views make bias against women possible, and justify the denial of women's right to access the Internet.
- Financial obstacles, as an increasing number of Yemenis cannot afford service high costs, especially in the present context of rising poverty and low income rates.
- Poor services and slow Internet connections,
- Contingent obstacles (currently witnessed in some parts of the country as a result of the war which led to destruction of the telecommunications infrastructure. This issue has not been addressed yet, especially in Taiz.
- Social customs regarding matrimonial roles. In the context of the patriarchal structure of the Yemeni society, wives are supposed to conduct themselves in a way that adheres to social traditions and to the dictates of their husbands, who tend to dominate the family. Women succumb to these dictates to preserve their marriage bonds intact.
- Most Yemeni women live in rural areas where no Internet service is accessible.

Maha Aoun 23 years old from Taiz said " My experience with the internet came at the beginning of 2010 when I was accepted to the Access Scholarship at the AMIDEAST Institute. We used the net to send our daily duties to the most ... but now I use the net to get useful things like reading and searching for new information, follow up channels, blogs and educational sites, And grants .., for me benefited from the development of my skills and cultures, provided in one of the opportunities that exist in one of the recruitment sites and accepted, contact with the competent authorities through the websites, although, however, we encounter a lot of difficulties such as weakness of the net or a break ". She added Women find it difficult to use the Internet because of the customs and traditions in our society where the society contempt women who use the Internet and private social networking sites such as Facebook. This let girls use a nickname to hide their identity for fear of knowing a parents and this is a problem in itself.. Another problem The Yemeni girl may face a lack of awareness of how to exploit the net in a positive way and not spend 5_6 hours using social networking sites   only".

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[7] Social Bakers

'My experience with the Internet is very bitter. However you increase the speed of the Internet no things changes except the price. The internet slow effect on my work. I cannot send pictures and videos with high accuracy. I also can't communicate online because I know that the Internet is very slow and the call is interrupted from time to time. The Illiteracy is a tyrant among women in Yemen, so the electronic illiteracy is the largest among women except the educated and economically empowered women are using the internet only". Said one women leader.

However, there has been a remarkable progress recently in the number of women having access to the Internet. Moreover, some women have even used the Internet as a means of profit and marketing.

Recommendations

✓ The immediate lifting of censorship and restrictions imposed on news websites.

✓ Putting an end to government monopoly of the Internet services, and opening up this vital industry to private sector investment and competition.

✓ Enhancing the role of the relevant institutions and making intensive contacts with international organizations and urge them to help journalists working inside Yemen and to demand providing technical solutions to overcome inadequate Internet services.

✓ It is necessary to introduce new and cutting-edge telecommunication technologies such as the fourth generation technology,

✓ Setting up a Telecommunications Regulation Authority, to regulate and supervise performance of telecommunication and Internet companies to ensure that these companies are committed to consumer rights.

✓ Creating a Computer Emergency Response Team (CERT),

✓ Exerting further efforts in infrastructure development, legislation, education, and raising awareness,

✓ Building a highly professional Yemeni Gateway, and publishing high-quality professional content,

✓ Encouraging entrepreneurship and investment in digital projects and e-commerce.

References

Data collection is based on field interviews and online sources.

References:

1. Internet World Stats.

2. Akamai Network

3. Reports on Media Freedom in Yemen, issued by the Studies and Economic Media Center (SEMC) for the years 2015, 2016, and 2017.

4. Social Bakers, a website specializing in world Facebook usage statistics

5. Blog of Fahmi Al-Bahith, director of the Internet Society, Yemen chapter.

About :-

SEMC is a NGO that works for Rehabilitation and awareness raising on economic and development issues , promoting transparency, good governance and citizen participation in decision-making , creating a free and professional media and Economic Empowerment for women and youth

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