



Fidelman & Co.



QUESTION

Mass media access: Asia

INSIGHTS

- Over 95% of households in China have at least one television.
- Bangladesh has radio broadcast coverage for its entire population, but one in ten Bangladeshis will still be unreachable during a crisis.
- It is estimated that 200 million Indians don't have access to radio, television or the internet.

OVERVIEW

South Asian countries have a larger percentage of population that are unreachable when compared to China and Indonesia. Although there isn't much variance observed in the percentage of population covered by radio broadcast services, there is a significant difference in the number of people that can be reached. The primary reason for a substantial proportion of the population being unreachable in South Asia is the inability of that part of the population to afford a radio set. Please find below our a deeper analysis of the subject.

ASSUMPTIONS

We assume that the percentage of people with access to mass media will be equal to the highest percentage of coverage among the three mediums: radio, television and internet.

For the purpose of determining the proportion of the population that can be reached during an emergency or crisis, we assume that people who can be reached have a radio or a television or an internet enabled device in their household. We do not account for access to a device owned by a person who does not belong to the individuals household.

The accessibility of radio in a country is assumed to be equal to the reach of the state-owned radio broadcaster in the country. The basis of this assumption is that the private operators only operate in areas (with greater population densities) where it is economically viable to do so; whereas, it is a social mandate for a state run operator to reach out to as many people as they can.

FINDINGS

INDIA

Indian domestic radio broadcasting is done either on [medium wave \(5\)](#) (MW) or using [Frequency Modulation \(5\)](#) (FM) technology. [All India Radio \(15\)](#) (AIR), which is the state-owned broadcaster uses both FM and Amplitude Modulation (AM) technology. Medium wave is a [type of AM \(5\)](#) radio carrier.

Radio broadcast done on MW in India has a coverage of [98.02% \(15\)](#) of the Indian population and [88.92% \(15\)](#) of the geographical area.

FM is a [more expensive technology \(5\)](#) to use for broadcasting and is therefore limited to clusters with high population densities. AM (medium wave) has a [wider coverage \(5\)](#) than FM and can be received with [simple equipment \(5\)](#).

Therefore, we assume that 98.02% of the Indian population has access to mass media and correspondingly 1.98% of the Indian population does not have access to mass media.

Most of the recent articles and reports we came across gave us statistics on how many people own television, radios, etc. We cannot use this information to triangulate the proportion of people that do not have a television, radio or internet enabled device as many consumers own more than one type of device.

However, we came across a report from 2012, which puts the number of people without a radio or television or internet enabled device at [200 million \(24\)](#). The population of India in 2012 was [1,235,990,000 \(17\)](#); the population at this moment is approximately [1,348,000,000 \(2\)](#).

Therefore, the increment in the population is approximately 112 million since 2012. For simplicity and for the lack of recent data we will assume that the increase in population is the same as the increase in the number of people who own a mass media device.

Therefore, the number of people who cannot be reached during an emergency = $200,000,000 * 100 / 1,348,000,000 = 14.84\%$

The world bank estimated that [21.2% \(23\)](#) of the Indian population lived Below the Poverty Line (BPL) i.e. less than [\\$1.90 \(23\)](#) a day. This is probably one of the reasons for not owning a radio. Also, the people who cannot be reached via radio (1.98%) are either located in very [sparsely populated areas \(15\)](#), [hilly terrain \(15\)](#) or [strategic border areas \(14\)](#).

CHINA

The 2015 census data puts the national coverage of TV programs at [98.77% \(9\)](#), which is greater than its radio coverage of [98.17% \(9\)](#). This is the only exception in terms of the population having greater access to television compared to radio services.

It is possible that some regions in China receive greater radio coverage than TV coverage. However, we have not done that level of detailing, as the number will be fairly insignificant in percentage terms. We will assume that the percentage of television broadcast coverage is the maximum possible media coverage in China.

The television coverage has increased from [97.62% \(10\)](#) in 2010 to [98.6% \(10\)](#) in 2014 to [98.77% \(10\)](#) in 2015. We observe that the rate of increase in coverage diminishes as the coverage percentage approaches the 100% mark.

Therefore, we estimate that the increase in coverage percentage in China over the last 2

years would be roughly 0.25%, which would make the total percentage of population receiving television broadcast as of today equal to 99.02%.

The percentage of households that own a TV in China was [99.52% \(19\)](#) as of 2010, which is higher than the TV broadcast coverage percentage of 99.02%. However, another source put the percentage of household television ownership at [95% \(20\)](#) in 2010. We will consider the latter for our calculations.

Assuming that the percentage increase in television ownership between 2010 and the present will be the same as the percentage increase in the television broadcast coverage, the percentage of population in China that owns a television as of today will be approximately 96.4%. This is lower than the radio broadcast coverage percentage.

The current radio broadcast percentage coverage in China can be calculated in the same way as the television broadcast coverage percentage. Therefore, the radio broadcast coverage percentage in China as of today is 98.42% ($98.17+0.25$), which means 1.52% of the Chinese population do not have any access to mass media.

Since the rate of TV ownership in China is high, we may assume that every person who gets radio coverage in China can afford a radio, and therefore owns a radio. Hence, the total percentage of population in China that can be reached during an emergency or crisis is 98.42%. Correspondingly, the percentage of population in China that cannot be reached during an emergency or crisis is 1.58%.

The media broadcast in China is [stringently controlled \(21\)](#) by the state and serves as a medium of [propaganda \(21\)](#) to its large population; most of whom own TVs and radios ([similar to developed economies \(19\)](#)). Therefore, we infer that the only possible constraints for media coverage would be either geographical or extremely thinly populated areas.

PAKISTAN

The state-owned radio broadcaster, Pakistan Broadcasting Corporation (PBC), had a coverage of [97% \(12\)](#) of Pakistan's population as of 2012. As this is the most recent report we found, and because we don't have any other statistic to extrapolate from, we will assume that the percentage of radio coverage in Pakistan would have increased over the last five years to the same value as India's current radio broadcast percentage coverage (98.02%).

According to a [2014 Gallup report \(11\)](#), around one in six Pakistanis ([16.5% \(11\)](#)) listen to the radio at least once a week. However, this is not indicative of ownership of a radio. We will triangulate the ownership rate by assuming that it is correlated to poverty.

The World Bank indicates that approximately [six percent \(25\)](#) of Pakistanis are below the poverty line (earn less than \$1.9 per day).

We estimated that 12.86% (14.84% - 1.98%) of people in India do not have a radio primarily because they can't afford one. Given that the percentage population below the poverty line in India is 21.2% as against 6% in Pakistan, we estimate that the percentage of population in Pakistan that doesn't own a radio because they can't afford it is 28% (6%/21.2%) that of India.

Therefore, percentage of the population that doesn't own a radio because they are too poor to afford it is 3.60%. Add to that the percentage of population (1.98%) that doesn't have radio coverage and we get the percentage of people that can't be reached in a crisis or emergency as 5.58%.

Like in the case of other countries, sparsely populated areas and hilly regions are unlikely to have coverage. These regions are mostly rural areas of Pakistan.

INDONESIA

As of 2012, [94.1% \(13\)](#) of Indonesian households had a TV, which is the dominant medium of mass media in Indonesia; only [one in four \(13\)](#) Indonesians tuned into radio at least once a week. This was the most recent data published.

There was no specific data found on radio coverage. Given that about one in twenty Indonesians have a TV in their household, it would be fair to assume that it would be no lesser than any of the countries listed above.

Since the TV ownership rate is similar to China, we will assume that the percentage of the country's population that cannot be reached during an emergency or crisis is the same as that of [China \(1.58%\); \(7\)](#) and similarly the percentage of the population that does not have any access to mass media will be 1.52%.

BANGLADESH

According to AC Nielsen, [two out of three \(22\)](#) Bangladeshis living in rural areas ([73% \(22\)](#) of the total population), watched television. However, many households in these areas have [no access to electricity \(22\)](#) and could not afford a television even if they had electricity. The only alternative for them is to listen to radio.

The Nielsen survey also indicated that [one in five \(22\)](#) Bangladeshis in rural areas did not

even have access to radio despite the state radio network having coverage of the entire country.

Number of people reachable today in the case of an emergency or crisis would be higher than it was in 2011. We need to estimate the percentage of people who are unreachable as of today.

Considering that the percentage of people below poverty line fell 6% (by 24.49% in 5 years) from [24.5% \(26\)](#) to [18.5% \(26\)](#) between 2005 and 2010, we assume that it would have fallen at the same rate between 2010 and now.

Therefore, in 2011 the BPL percentage in Bangladesh would have been 17.59%, and as of today it would be approximately 12.15%.

Twenty percent of Bangladesh's rural population (73%) is 14.6% of the total Bangladeshi population. We will assume that the city population is above BPL and everyone in the city at least owns a radio.

The unreachable population corresponding to the BPL population (17.59%) is 14.6%. Therefore, the percentage of the unreachable population corresponding to the 12.15% BPL population will be 10.08%.

The percentage of population in Bangladesh that does not have access to mass media is zero and the percentage of population that will be unreachable in case of an emergency or crisis is 10.08%.

Please note that there could be minor discrepancies in the findings given that these values are triangulated based on some assumptions.

CONCLUSION

We have found the percentage of the population that does not have access to mass media (television, internet and radio); and the percentage of population that will not be reachable in case of an emergency, for the following countries: in India 1.98% don't have access and 14.84% are unreachable; in China 1.52% don't have access and 1.58% are unreachable; in Pakistan 1.98% don't have access and 5.58% are unreachable; in Indonesia 1.52% don't have access and 1.58% are unreachable; in Bangladesh everybody has access and 10.08% are unreachable. The primary reasons for a part of the population in any country not having coverage are that they live in sparsely populated areas or hilly regions. The remaining unreachable population is unfortunately too poor to afford a radio. We have reported the most recent data available.

SOURCES

- 1) FM radio network to reach 65% population soon: Government
<https://economictimes.indiatimes.com/industry/media/entertainment/fm-radio-network-to-reach-65-population-soon-government/articleshow/62363928.cms>
- 2) India Population (2018) - Worldometers
<http://www.worldometers.info/world-population/india-population/>
- 3) Medium Wave (AM Radio) reaches 94% of India's Population
<http://www.isca.in/IJSS/Archive/v6/i3/5.ISCA-IRJSS-2017-015.pdf>
- 4) All MW Radio Channels in Asia
<http://bdxc.org.uk/southasia.pdf>
- 5) AM Vs FM
http://www.trai.gov.in/sites/default/files/DRM_Consortium_05092017.pdf
- 6) China Population (2018) - Worldometers
<http://www.worldometers.info/world-population/china-population/>
- 7) Reach of TV more than Radio in China - 2001
<http://www.china.org.cn/english/features/38323.htm>
- 8) China Statistical Yearbook-2016
<http://www.stats.gov.cn/tjsj/ndsj/2016/indexeh.htm>
- 9) 2015 Population Coverage - China
<http://www.stats.gov.cn/tjsj/ndsj/2016/html/2316EN.jpg>
- 10) Trend in Population Coverage - China
<http://www.stats.gov.cn/tjsj/ndsj/2016/indexeh.htm>
- 11) Pakistan- GALLUP
<https://www.bbg.gov/wp-content/media/2014/10/Pakistan-research-brief-FINAL.pdf>
- 12) Pakistan - 97% reach of radio till 2012
<http://www.cdacnetwork.org/contentAsset/raw-data/9f79146d-2167-4a18-8762-80c8a275c8c5/attachedFile>
- 13) Indonesia - GALLUP
<https://www.bbg.gov/wp-content/media/2012/10/gallup-indonesia-brief.pdf>
- 14) Border- Security Concerns
<http://www.impactonnet.com/node/5225>
- 15) Medium Wave Coverage in India -98.02%
<http://mib.gov.in/broadcasting/report-radio-broadcast-policy-committee>

16) AM vs FM

https://www.diffen.com/difference/AM_vs_FM

17) India - total population 2010-2022 | Statistic

<https://www.statista.com/statistics/263766/total-population-of-india/>

18) India has highest number of people living below poverty line: World Bank

<http://www.businesstoday.in/current/economy-politics/india-has-highest-number-of-people-living-below-poverty-line-world-bank/story/238085.html>

19) TV Households, Percent all Households (68 countries) | Databank

<https://www.nakono.com/tekcarta/databank/tv-households-percent-all-households/>

20) China TV Ownership %

<http://www.casbaa.com/advertising/countries/china>

21) China profile- State Control

<http://www.bbc.com/news/world-asia-pacific-13017881>

22) Bangladesh

<http://www.cdacnetwork.org/contentAsset/raw-data/38d6a8d4-c96c-4583-bf8b-a402e7413ca7/attachedFile>

23) Poverty & Equity Data Portal - India

<http://povertydata.worldbank.org/poverty/country/IND>

24) 200 million Indians have no TV, phone or radio - Times of India

<https://timesofindia.indiatimes.com/india/200-million-Indians-have-no-TV-phone-or-radio/articleshow/12253614.cms>

25) Poverty & Equity Data Portal

<http://povertydata.worldbank.org/poverty/country/PAK>

26) Poverty & Equity Data Portal

<http://povertydata.worldbank.org/poverty/country/BGD>