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Editorial

Information and Communication Technology in the Context of Nepal

"Information and communications technology unlocks the value of time, allowing and enabling multi-tasking, multi-channels, multi-this and multi-that."

-Li Ka-shing

The first Internet service in Nepal was introduced in 1993 by the government company Nepal Telecom via a dial-up connection, then commercialized by Mercantile Communications in 1995. According to the latest report released by the International Telecommunication Union (ITU) for 2021, Nepal ranks 142/193 countries on the ICT Development Index (IDI). Similarly, according to the Global Innovation Index (GII) 2021, Nepal is ranked 111th out of 132 economies in innovation efficiency.

Recently, the government of Nepal decided to allocate at least 1% of the budget to science, technology, research and innovation. Local governments are also encouraging tech-based startups by launching "idea bank" programs. For example, Kathmandu Capital City has launched a "Bookless Friday" program to implement technical and practical education at the school level. IT policy in Nepal remains relatively limited and focused. Restrictions imposed during the decades-long 'People's War', instability at the highest levels of government and rampant corruption have reduced opportunities for development (Shields, 2009). Information and communication policies in Nepal are traced back to the Broadcasting Act 2014 (1957), which stipulates the need for radio broadcasting licenses and designates the central government as the issuing authority. The evolution of modern IT policy began with the Telecommunications Act 2053 (1997) and the Telecommunications Regulation 2054 (1997). But when it comes to big IT policy, it's the IT policy of 2057 (2000). This policy is aimed at the participation of the private sector in the development of information technology. The global trend of privatization and autonomous regulation advocated by the World Bank and other international bodies has been followed by Nepalese policy (Wallsten, 1999). This Information Technology Policy was revised again in 2010. After requesting a policy amendment covering the whole of Information and Communication Technology, the Government of Nepal designed the Information Communication Policy. news 2072 (2015). This policy highlights the need for a clearly defined and coherent regulatory and policy framework to address the converging telecommunications, broadcasting, and IT regimes (IT Policy 2072). These policies generally govern all information and communication technology related activities in Nepal.

Nepal's overall ICT development is not considered satisfactory as the country still lacks minimal ICT infrastructure across the country, but the telecommunications sector is considered to have grown exceptionally fast compared to other services. The telecommunications industry developed rapidly after 2005. It can be said that this is the only service that is currently on the same level as other developed and developing countries. As described in the Milestones of Nepal Telecom, the development of ICT in Nepal is said to have started with the founding of Nepal.

Doorsanchar Company - a state entity established in early 1913 (Rathjens, Butman and Vaidya, 1975). A year after its establishment, it connected an open main line between Kathmandu and Raxaul, India. This development continued with the creation of the digital exchange system in 1980, which helped to extend telecommunications services to the people. The service was then extended to rural areas with the help of JICA (Japan International Cooperation Agency). All these years communication has been through microwave links. In 1995, optical fiber was introduced in communication equipment. After the introduction of optical light, the development accelerated and then the fiber connection was established to India and Bangladesh. GSM and CDMA service were launched in 2003 and 2005, respectively. As a result,

many citizens gained access to cell phones. In 2007, the 3G network was launched. Nepal has been a very fast adopter of 3G in South Asian countries (Nepal Telecom, n.d.). Due to many obstacles, the development of the telecommunications sector was very fast. Due to the rapid development of the telecommunications sector, many private companies started investing in the telecommunications business. This led to competition leading to cheap services for customers. Currently there are six national level telecommunications companies. Among the six, two companies have a large market share. The state-owned telecommunications company has also now been privatized. With the development of telecommunications companies, every urban area has a telecommunications connection.

According to a survey by the Nepal Telecommunications Authority, the mobile phone coverage in Nepal is 110.25% (shown in Table 4.1) (Nepal Telecommunications Authority, 2016). This means that every citizen of Nepal has a mobile connection. However, this data does not give the true picture because it is based on the number of SIM cards sold and active, and many people tend to have two SIM cards. The actual prevalence is slightly below this level, which is also very impressive information. It shows the level of telecommunications of the country. The table below shows the number of telephone users in Nepal from different providers and services. After 2004, Internet penetration grew very rapidly. Currently, internet penetration is 46.64% as of 2015 (Nepal Telecommunications Authority, 2016). This shows that we have better internet connections, although this data mainly covers urban areas where many people use the internet today thanks to the 3G and GPRS service of mobile phones. If we could we should increase this coverage in rural areas and we can easily develop rural areas along with cities. The government of Nepal has also invested somewhat in ICT development. The Telecommunications Law was drafted in 1997 and aims to promote the orderly development of the telecommunications industry. It helped regulate all developments in telecommunications. This law was later supported by the Telecommunications Policy 2004. The government is now equipped with all the necessary means of communication. The development of telecommunication has helped the central government to reach all the institutions located in remote hilly areas. Currently, all 75 districts of Nepal are connected by landlines and mobile phones. There are very few remote areas left where the mobile connection does not work to establish in addition to mobile networks, all districts are now connected to the Internet via either 3G or broadband ADSL. All cities in Nepal are connected through fiber optic network. All Nepalese links with India's ISPs like Tata and Airtel have been severed ("AS Rank: AS Ranking - CAIDA: http://as-rank.caida.org", 2015). We are also looking to connect with China and Bangladesh and create redundancy. All the ISPs are connected to India through optical fiber through a different location. In Nepal's major cities, fiber optic connections to the home have an average speed of 1 Mbps. All other cable connections start at a minimum speed of 128 Kbps. Even after the introduction of WiMAX technology, large cities and highways are now connected via wireless internet. Due to the increase in the number of Internet users, Internet service providers have now started using cache servers to provide high-speed Internet. Google and YouTube cache servers are managed by most major internet providers. While you get 254 Kbps for other websites, you get more than 1 Mbps for YouTube and Google.

"The new information technology... Internet and e-mail... have practically eliminated the physical costs of communications."

-Peter Drucker

Umesh Prasad Shrivastava
Editor-in-Chief