

Proceedings of the Conference on

Sustainable Telecommunications Sector in Nepal

Event Organized to Celebrate
World Telecommunication
and Information Society Day, 2024

MAY 17, 2024

Nepal Telecommunications Authority
Kantipath, Jamal, Kathmandu.



Executive Summary

The "Conference on Sustainable Telecommunications Sector in Nepal", organized in commemoration of World Telecommunication and Information Society Day, 2024, focused on addressing the current challenges and future opportunities within Nepal's telecommunication and ICT sectors. This event brought together key stakeholders, including government officials, industry experts, and delegates from international organizations, to discuss the various issues on the Telecommunications sector, including, sustainability of Nepal's telecommunication sector and digital innovation.

Key Takeaways:

- **Regulatory Reform:** There is a critical need for updated regulatory frameworks to support innovation, competition and investment in the telecommunication sector. This includes moving from G2 to more collaborative and agile G4 and G5 regulatory environments.
- **Operators' Concern and Confession:** OTT services are significantly impacting traditional telecom revenues. Possibility of collaborations between local operators and international OTT providers should be explored. Operators accept that their marketing strategies need to be more customer-centric, with consideration to quality of service and quality of experience.
- **Infrastructure Development:** Development of robust digital infrastructure required, with a focus on expanding broadband access, particularly in remote and underserved areas. This includes facilitating last-mile connectivity and ensuring efficient spectrum utilization.
- **5G and Emerging Technologies:** The readiness for 5G and other emerging technologies requires substantial infrastructure investment and regulatory support. This includes spectrum allocation and fostering an environment conducive to innovation, technological trials and adoption.
- **Digital Innovation and Collaboration:** Promoting ICT-centric innovation ecosystems is essential. This involves collaboration among public and private sectors, academia, and financial institutions to drive digital transformation and economic growth. The government should support private sector initiatives and ensure regulatory frameworks that facilitate growth and innovation.
- **Focus on Sustainable Development:** Achieving SDGs requires leveraging digital technologies to promote inclusive development. This includes addressing the digital divide, ensuring access to digital services for marginalized communities, and fostering economic empowerment through technology.

Overall, the conference emphasized on the necessity of a coordinated effort to drive digital innovation and sustainable development in Nepal's telecommunication sector, highlighting the importance of regulatory reforms, infrastructure development, and stakeholder collaboration.

Acronyms

APT	Asia Pacific Telecommunity
ICT	Information and Communication Technology
IoT	Internet of Things
ISP	Internet Service Provider
ITU	International Telecommunication Union
LDC	Least Developed Country
MoCIT	Ministry of Communication and Information Technology, Nepal
OPMCM	Office of the Prime Minister and the Council of Ministers, Nepal
SDG	Sustainable Development Goal
STEM	Science, Technology, Engineering and Mathematics
WTISD	World Telecommunication and Information Society Day

Video Links to the Program Sessions:

Session 1 and Session 2

<https://www.youtube.com/watch?v=gZ6rpfZiKyA>

Session 3, Session 4 and Session 5

<https://www.youtube.com/watch?v=UUcS1nRVMHQ>

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Session 1 –

Celebration of World Telecommunication and Information Society Day 2024

Speakers:

**Mr. Bhupendra Bhandari, Chairman, NTA
(Welcome Address)**

**Ms. Doreen Bogdan-Martin, Secretary-General, ITU
(WTISD Day Message via Video)**

**Ms. Atsuko Okuda, Regional Director, ITU Regional Office for Asia and
the Pacific (Opening Remarks via Video)**

**Mr. Masanori Kondo, Secretary General, APT
(Opening Remarks via Delegate)**

**Mr. Forhadul Parvez, Program Officer, APT
(Keynote Presentation)**

**Ms. Kamala Panta, Honorable Member of Parliament, National Assembly
(Special Guest Address)**

**Ms. Rekha Sharma, Honorable Minister, MoCIT
(Chief Guest Address)**

Welcome Address by the Chairman, NTA (Outline)

Mr. Bhupendra Bhandari, Chairman, NTA

- The chairman of Nepal Telecommunications Authority acknowledged the rapid evolution and increasing usage of telecommunication technology, stressing the immediate need for enhanced service quality, affordability, and adoption of the latest technologies. He extended his best wishes for the occasion (WTISD 2024), encouraging everyone to contribute more towards sustainable development and building an inclusive society through digital innovation.
- Acknowledging existing challenges in the telecommunications market, he called for turning these challenges into opportunities to ensure sustainability. He highlighted the importance of making competitive markets sustainable through advancements in technology.
- Emphasizing the transformative potential, he specified technologies like 4G, 5G, broadband internet, AI, blockchain, augmented reality, and holograms and stated that these technologies are crucial in achieving digital transformation via digital innovation and digitization of socioeconomic sectors such as healthcare, education, agriculture, finance and government service delivery.
- Digital innovation was underscored as essential for bringing technological opportunities to consumers. Collaboration among stakeholders—public sector, private sector, entrepreneurs, academia, financial institutions and entrepreneurs support network—was emphasized for achieving this goal.
- Given Nepal's challenging geographical, economic, and social landscape, digital innovation was identified as a key tool for achieving sustainable development goals. Mentioning Nepal Government's commitment to celebrating next 10 years as an information technology decade, he urged all stakeholders to collaborate, starting today, towards realizing the theme of "Digital Innovation for Sustainable Development" set by the ITU.
- The chairman concluded by highlighting the significance of the conference and discussions on topics like sustainable telecom markets, regulatory frameworks, and digital innovation's role in Nepal's development. He emphasized that these discussions will be milestone for future policymaking and program formulation.

WTISD Messages from the Secretary-General, ITU (Outline)

Ms. Doreen Bogdan-Martin, Secretary-General, ITU

- Ms. Doreen Bogdan-Martin, the Secretary-General of the ITU, highlighted the theme for this year which is developed to celebrate the power of digital innovation for prosperity.
- She emphasized the longstanding history of innovation and stated that the innovation has always been a unique human endeavor. She referred to a specific example, and illustrated how innovation is driven by individuals and can start with anyone.
- She also emphasized the role of digital technology in connecting people and ideas, as well as its potential to connect every school in the world to the internet.
- Finally, the Secretary-General invited people to come together to celebrate the power of innovation in fostering sustainable prosperity for all.

Opening Remarks by the ITU Regional Director for Asia and the Pacific, ITU (Outline)

Ms. Atsuko Okuda, Regional Director, ITU Regional Office for Asia and the Pacific

- Ms. Okuda highlighted ITU's commitment to advocating for the transformative power of digital technology in sustainable development globally, noting ITU's 159-year history.
- She praised Nepal's emphasis on resilient connectivity, seeing it as crucial for digital transformation and sustainable development. She commended Nepal's pursuit of digitalization, including the Digital Nepal framework.
- She also stressed the importance of sustainable telecommunications infrastructure and policies for unlocking the true potential of digital transformation. This includes digital inclusion and bridging the digital divide to empower all individuals.
- She, then, outlined ITU's initiatives aimed at driving digital transformation at national and local levels. She highlighted programs promoting digital inclusion, particularly initiatives encouraging girls and young women to pursue careers in STEM fields. She also mentioned the "Girls in ICT Day" celebration in various countries, emphasizing the importance of empowering women and closing the gender digital divide for achieving sustainable development goals.
- Ms. Okuda mentioned about the opening of the ITU Area Office for South Asia and Innovation Center in Delhi, and invited collaboration with Nepal to advance digital technology in sectors like agriculture, health, and education.
- She concluded by calling for accelerated efforts to achieve sustainable, inclusive, and resilient development, emphasizing the importance of collaboration and cooperation.

Opening Remarks by the Secretary General, APT (Outline)

Mr. Masanori Kondo, Secretary General, APT
(via Mr. Forhadul Parvez, Program Officer, APT)

- Mr. Masanori Kondo, the Secretary General of APT regretted his physical absence in the program due to prior engagements but commended the Government of Nepal for its commitment to the development of the telecommunication sector.
- He highlighted the conference's focus on digital innovation for sustainable development, aligning with the global mission of advancing digital inclusion and sustainable development through ICT.
- He acknowledged Nepal's consistent contributions to the development of telecommunication as well as Nepal's potential for innovation and collaboration in expanding connectivity, bridging digital divide, and fostering socio-economic development in both rural and urban areas.
- He reassured APT's commitment to supporting Nepal in telecom and ICT endeavors, emphasizing the importance of collaboration for building a robust, inclusive, and sustainable digital future.
- The Secretary General, via the Program Officer, encouraged partnership, knowledge sharing, and innovation for a sustainable and inclusive telecommunication sector, highlighting the potential for creating a legacy of digital empowerment and sustainable development.

Special Guest Address by the Honorable Member of Parliament, National Assembly (Outline)

Ms. Kamala Panta, Honorable Member of Parliament, National Assembly

- Ms. Panta, Chair of Development, Economic Affairs and Good Governance Committee in National Assembly, appreciated the significant internet adoption, despite entering the arena later than other countries.
- She stated that the telecommunication sector is vital for economic development, which in turn contributes to sustainable growth. She focused on the requirement of users' growth as well as reliable telecommunications infrastructure for sustainable growth of this sector. She also indicated political commitment as well as praised the government support.
- Ms. Panta acknowledged and appreciated the contribution of the private sector in developing telecommunications services. She also emphasized the need for expanding telecommunications services to rural areas and the necessity of developing appropriate structures to ensure inclusivity aligned with SDGs.
- She concluded her speech by addressing emerging challenges like cyber security and online safety, with a call for capacity strengthening. She noted NTA's substantial contribution thus far and suggested that it might need to play an even greater role in the future.

Keynote Presentation: Sustainable Telecom Sector and Digital Innovation (Synopsis)

Mr. Forhadul Parvez, Program Officer, APT

- Mr. Parvez began his keynote by outlining the mission and emphasizing the critical role of APT in fostering telecommunications development in the region.
- He presented that the global internet connectivity is at 67%, with Asia Pacific at 66% and mentioned landlocked and least developed countries have lower connectivity rates. He also mentioned rising data demand citing monthly data consumption per smartphone is projected to rise from 37.2 GB in 2024 to 74.7 GB in 2029 in South Asian region.
- He highlighted the importance of digital transformation for economic growth and societal progress, underscoring how digital technologies can bridge the gap between urban and rural areas, providing equitable access to information, services, and opportunities. He also emphasized the need for investments in robust telecommunications infrastructure to ensure comprehensive coverage and high-quality service delivery.
- Mr. Parvez discussed the impact of the COVID-19 pandemic on the ICT sector. He noted that the pandemic accelerated the adoption of digital services, highlighting the sector's resilience and its crucial role in maintaining connectivity and supporting economic activities during crises.
- He identified several challenges facing the telecommunications sector in the Asia-Pacific region. These include regulatory hurdles, high infrastructure costs, spectrum allocation issues, and the digital divide between urban and rural areas.
- Mr. Parvez, then, called for the establishment of robust policy and regulatory frameworks to foster innovation and investment in the telecom sector. He advocated for policies that encourage competition, protect consumer rights, and promote the efficient use of limited national resources.
- Addressing the critical issue of spectrum management, Mr. Parvez stressed the importance of efficient spectrum allocation to support the growth of emerging technologies like 5G. He urged member countries to adopt transparent and fair spectrum allocation policies.
- He advocated for the establishment of Public-Private Partnerships (PPPs) to drive infrastructure development and service delivery. He highlighted successful PPP models in the region and encouraged countries to explore similar approaches.
- Mr. Parvez underscored the need for capacity building and skill development to support the telecommunications sector. He mentioned APT's initiatives in training and knowledge sharing to equip professionals with the necessary skills to drive the sector forward.
- He highlighted the potential of technologies such as 5G, IoT, and artificial intelligence (AI) in transforming the telecom landscape. Mr. Parvez encouraged member countries to invest in research and development to harness these technologies for economic and social benefits.
- Mr. Parvez concluded his speech by calling for enhanced regional cooperation and collaborative efforts and reaffirmed APT's commitment to supporting its member countries in their telecommunications endeavors.

Chief Guest Address by the Honorable Minister, MoCIT (Outline)

Ms. Rekha Sharma, Honorable Minister, MoCIT

- Ms. Sharma, Minister of Communication and Information Technology, recognized the conference's significance in shaping strategies for new ICTs, addressing sector challenges, and affirmed the government's commitment to sustainable development in this sector.
- She commended the backing of international bodies such as ITU and APT in Nepal's telecom progress, highlighting Nepal's adherence to UN objectives for telecom development, prioritizing ICT access, education, healthcare, and social progress.
- She referred to the progress in digital infrastructure development, with telecommunication reaching most parts of the country and broadband internet extending to ward-centers. She expressed the belief that digital transformation can pave the way for overall prosperity, concurrently narrowing the digital divide through the development of robust digital infrastructure.
- She underscored that revisions in the Telecommunications Act are geared towards prioritizing good governance, infrastructure development, level playing field and infrastructure sharing to decrease costs and tariff and enhance efficiency. Furthermore, radio frequency policy is issued to manage radio frequency allocation for 5G and other innovative technologies.
- She mentioned that National Cyber Security Center has been established for the first time in Nepal. Likewise, IT and Cyber Security Bills are being drafted to fortify emerging sectors.
- She announced plans to review and integrate existing ICT policies to meet current needs and challenges effectively. Moreover, there's an anticipation that enhanced competitiveness in international bandwidth procurement will lower costs for both service providers and consumers.
- The Minister also highlighted the Policy and Program of the Government for the next Fiscal Year. The next decade has been declared as the Information Technology Decade, aiming to develop Nepal as a Global IT Hub, with a focus on public digital infrastructure. Such progress hinges on the advancement of the telecommunications sector, and she indicated that Nepal Telecommunications Authority must play a pivotal role in driving these developments.
- She stressed the importance of planned development, policy reforms, and good governance to effectively steer the telecom sector, ensuring the benefits of ICT reach all and boost revenue.
- Finally, she assured all to create an investor-friendly regulatory environment to foster growth and make telecom sector sustainable.

Session 2 –

Telecommunications Sector: Status, Challenges, and Opportunities

Speakers:

Dr. Bimal Acharya, Manager, Nepal Telecom (Presentation)

Mr. Vishal Mani Upadhyay, CLRO, Ncell Axiata (Presentation)

Mr. Sudeep Acharya, MD, Dish Media Network (Presentation)

Mr. Bijay Kumar Roy, Director, NTA (Presentation)

Panelists:

Mr. Bijay Kumar Roy, Director, NTA

Ms. Sangita Pahadee (Aryal), MD, Nepal Telecom

Mr. Jabbor Kayumov, CEO, Ncell Axiata

Mr. Binay Bohara, CEO, Vianet Communications

Mr. Suresh Kumar Pudasaine, Telecom Expert

Moderator:

Mr. Manoj Ghimire (Co-founder at RARA Lab)

Presentation: Status, Challenges, and Opportunities of Telecom Market in Nepal (Synopsis)

Dr. Bimal Acharya, Manager, Nepal Telecom

- Nepal Telecom is a government-owned company over 100 years old, marking 25 years of providing cellular mobile technology and offering wireless, wireline, and FTTH services for voice, data, and television (triple play).
- Nepal Telecom operates 2G, 3G, and 4G networks across rural, remote, urban, and suburban areas, with 4G available in all districts and in 740 out of 753 local levels and provides VSAT connectivity for remote areas. The company is transitioning traditional ADSL and copper customers to FTTH.
- Nepal Telecom is constructing an Information Highway (backbone optical network). Utilizing RTDF, NTA is supporting Nepal Telecom in developing the high-capacity backbone network. Other service providers can utilize this backbone network according to the NTA's sharing guidelines.
- Challenges include the impact of OTT services on voice call revenues, huge spectrum and license fees, high competition, procurement delays, infrastructure damage from construction, lack of tower installation permissions in forests and urban areas.
- Opportunities include high demand for efficient telecommunications and broadband services, unmet needs in remote areas, Nepal's strategic position between China and India, and growing demand for the latest technologies and services.

Presentation: Status, Challenges, and Opportunities of ISP Market in Nepal (Synopsis)

Mr. Sudeep Acharya, MD, Dish Media Network

- The ISP industry is dedicated to providing internet access for everyone, ensuring quality infrastructure and resources to deliver high-quality internet services. The internet industry aims to provide services that are affordable, accessible, stable, and secure.
- The challenges of the industry include intense competition with over 125 licensed ISPs leading to redundant infrastructures and low efficiency, market sensitivity to price over quality, geographic terrain, high taxation and overhead costs, unsightly and tangled fiber connections prone to breakage and lack of innovation.
- The opportunities for sustainability are that 60% of potential customers are yet to be served, growing demand for internet-related services (IoT, data centers, cloud services etc.), possible expansion into vertical sectors (health, education, tourism, agriculture, hospitality, finance etc.)
- Digitization, promotion of opportunities to expand to other sectors, fostering synergy between private and public entities and limiting the number of ISP licenses to improve efficiency and service quality are points to be considered moving forward.

Presentation: Status, Challenges, and Opportunities of Telecom Market in Nepal (Synopsys)

Mr. Vishal Mani Upadhyay, CLRO, Ncell Axiata

- Mr. Upadhyay highlighted that local and international investors face significant challenges in maintaining long-term viability due to adverse and unpredictable conditions, leading to a deficiency in sustained investment necessary for overall sustainability.
- He noted that over the last five years, overall telecom revenue, including that of internet service providers, has contracted by 5%. Telecom service revenue has decreased by 25% during the same period. In contrast, neighboring markets like Sri Lanka and Bangladesh demonstrated robust growth rates of 38% and 46%, respectively.
- The primary reasons for the revenue drop, according to Mr. Upadhyay, are frequent changes in regulatory directives and the high adoption of OTT services. While data revenue has increased, it has not been sufficient to offset the decline in voice revenue. He also pointed out that international incoming calls, a major source of foreign exchange, are decreasing.
- Mr. Upadhyay warned that if the regulatory regime does not change, the drop in overall revenue will continue, making it challenging for telecom operators to fulfill fixed obligations. He emphasized that the decreasing revenue would lead to reduced investment, resulting in poor network performance and negatively impacting consumer experience.
- He explained that with shrinking revenue and profitability, the mobile industry in Nepal has to invest more than its profit just to maintain the network. Deploying future technologies like 5G is particularly challenging under these circumstances.
- Despite the growth in smartphone users and data subscriber penetration, mobile data consumption in Nepal remains one of the lowest in South Asia. Mr. Upadhyay attributed this to the expensive mobile data.
- He called for government support to establish a stable and predictable business environment to sustain the telecom industry. Policy reform, a new Telecommunication Act, OTT regulation, and a flexible product and pricing regime are necessary.
- Mr. Upadhyay mentioned the discussion about introducing a third major telecom operator in Nepal, but noted that many operators have struggled to survive, with the remaining two facing significant challenges.
- He observed that although 70% of users have smartphones, only 2 out of 10 use mobile data regularly. This is due to expensive mobile data without subscription packages and too many confusing packages. He was vocal about Ncell's determination in simplifying packages, promising seamless billing and no interruption in services.

Presentation: Regulatory Initiatives (Synopsis)

Mr. Bijay Kumar Roy, Director, NTA

- Over the past two decades, many state-owned telecom operators were privatized. Market-based approaches were introduced to deliver telecom services. Liberalization in this field aimed to introduce new services, foster faster innovation, and attract private sector investment. These factors necessitated the introduction of independent regulator.
- Objectives of telecommunication regulation varies by country but includes promoting universal service access, fostering competition to ensure good quality of service (QoS), affordability and availability of advanced services. Other objectives are optimizing the use of scarce resources such as spectrum, numbers, and rights of way, attracting private sector investment and protecting consumer and privacy rights.
- Different policies, acts, regulations, directives, bylaws, guidelines and working procedures are introduced for effective regulation. Principles of effective regulation include minimizing regulatory intervention once competition is established, harmonizing with regional and global regulatory standards, introducing competition through liberalization, regulating based on principles of transparency, objectivity, professionalism, efficiency, and independence.
- As regulatory interventions and incentives, NTA introduced regional operators in the past to increase service availability, and is currently promoting investment in backbone and broadband optical networks.
- In addition to ensuring affordability and QoS, addressing convergence, over-the-top (OTT) services, net neutrality, AI, emerging technologies, cyber security, privacy and environmental sustainability are some of the regulatory challenges at present.
- Adoption of light-touch regulation, ensuring a fair and competitive environment with regulatory certainty, fostering cooperation and collaboration among stakeholders, promoting infrastructure sharing and encouraging digital innovation for digital transformation are essential for sustainable telecom market.

Panel Discussion: Way Forward for Sustainable Telecom Market (Summary)

- Regulators and government should focus on more than just collecting fees; they must address the needs of mobile and internet service providers. There is a shortage of skilled manpower in both regulatory bodies and operators. Previously, NTA included long-standing experts from various sectors, but this is no longer the case. The Ministry should recognize NTA as an independent regulatory body, and this should be implemented in practice. NTA should serve as the focal point between the government, operators, and consumers, reflecting its independent status.
- Data demand is growing due to services like OTT, telehealth, and telemedicine. Nepal is preparing infrastructure, such as an optical backbone network, to meet these increasing data demands.
- Revenue from voice services has decreased sharply, dropping by two-thirds in the past five years. Before 7 years, voice services constituted 90% of revenue, but now it's a 50-50 split between voice and data.
- Around 40% of Nepali are connected to fixed broadband services via ISPs. ISPs are also providing other services like call centers, managed services, data centers, cloud services, and IoT. By providing connectivity, ISPs enable an ecosystem of digital services.
- Regulatory approaches vary globally; some countries strictly regulate OTT services, while others are more liberal. Nepal has to take a concrete decision in this regard. Protecting telecom revenue through OTT regulation could facilitate investment in new technologies like 5G. But socio-economic values added by the OTT services cannot be overlooked.
- Mobile data usage is low due to high tariffs, causing users to frequently turn data on and off. Operators should simplify packages and ensure transparent charging to reduce customer burden.
- Data centers are expanding, and NTA, alongside the ministry and other stakeholders, is considering formulating data center regulations.
- 4G has provided high-speed internet and has been effective in data-driven applications in Nepal. 5G deployment is under observation as 5G has not been economically and socially matured. While operators are willing to invest in 5G, it requires extensive infrastructure and the government as well as all the stakeholders should come hand-in-hand and help in the deployments.
- Telecoms cannot sustain themselves solely on voice services and must explore other areas of ICT service delivery. Investing in the FTTH for voice operators can be a strategic decision. Also, infrastructure sharing is essential for the sustainability of telecom operations.
- There are concerns about high taxation in the telecommunication and internet sector, citing fees and licenses as burdensome. The excessive taxation could stifle innovation and hinder progress in sectors like telecommunications, including advancements in areas such as artificial intelligence and infrastructure. Reducing or abolishing excessive charges could incentivize investment, innovation, and ultimately generate more revenue for the country.

Session 3 –

Regulation for Sustainable Telecom Sector

Speakers:

Mr. Anup Upreti, Pioneer Law (Speedh)

Mr. Nabhonil Roy, Digital Government Expert, ITU (Presentation)

Panelists:

Mr. Rabindra Jha, Board Member, NTA

Mr. Bhesh Raj Kanel, Telecom Expert

Mr. Nabhonil Roy, Digital Government Expert, ITU

Mr. Forhadul Parvez, Program Officer, APT

Moderator:

Mr. Biswash Regmi (ICT Journalist)

Speech: Analysis of Contemporary Regulatory Regime (Synopsis)

Mr. Anup Upreti, Pioneer Law

- Major ISPs are approaching the end of their license period. State owned Nepal Telecom received its license renewed on the expiration day, and new license is valid for only five years. The uncertainty faced by operators regarding license periods is concerning and they (mainly private operators) cannot invest and work with long-term vision in such scenario.
- The Telecom Act of 1997 is outdated given the industry's evolution, new regime is necessary, incorporating an open license system, with provision of auction for frequencies.
- Current Act, formulated 25 years ago, mandates asset transfer to the government if over 50% of a company's shares are foreign-owned after 25 years. This provision needs revision. As the maximum foreign investment allowed in a telecom company is set to 80%, fully multinational companies are prevented from entering Nepal directly.
- The telecom sector faces heavy taxation despite declining incomes.
- The sector must be made more attractive to investors, providing clarity on future regulations and ensuring fair returns on investments. A revenue-based tax model is suggested.
- A portion of telecom operators' income is collected for the Rural Telecom Development Fund but remains underutilized, it should be used to build infrastructure and expand coverage.

Presentation: International Best Practices of ICT Regulation (Synopsis)

Mr. Nabhonil Roy, Digital Government Expert, ITU

- Mr. Nabhonil Roy from ITU emphasized the organization's role as a specialized agency for ICTs. ITU's mission includes ensuring universal connectivity and promoting sustainable digital transformation aligned with the Sustainable Development Goals (SDGs). He highlighted two key initiatives by ITU to transform SDGs to local level programs via national level policies.
- GovStack is a multi-stakeholder initiative aimed at accelerating national digital transformation. It focuses on leveraging reusable building blocks such as open-source software and interoperable components to build digital public infrastructure. This approach shifts from individual solutions to comprehensive transformation at scale, benefiting from economies of scale.
- SVSI (Smart Villages and Smart Islands) initiative targets socio-economic challenges at the community level and promotes digital transformation to address these challenges effectively.
- Mr. Roy invited the Government of Nepal to collaborate and proposed that ITU's Area Office and Global Innovation Center in Delhi could work closely with Nepal's central and provincial levels to innovate and address identifiable challenges through collaboration.

Panel Discussion: Way Forward on ICT/Telecom Regulation (Summary)

- Participants emphasized the need to update Nepal's telecom regulations from G2 to G4 standards, aligning with global practices where operators, regulators, government, and customers collaboratively shape policies. The upcoming Telecom Act revision promises to propel Nepal to G3 and eventually G4 standards, fostering a more dynamic regulatory environment.
- Over-the-Top (OTT) services were identified as disruptors decreasing telecom operators' traditional revenue streams. Some of the panelists advocated for governmental regulation of international OTT providers to mitigate revenue loss, while exploring new service offerings and schemes to offset declines.
- Operators were urged to prioritize customer needs over revenue-centric strategies. Enhancing customer satisfaction through tailored services and regulatory support would potentially drive revenue growth, leveraging technologies like AI and IoT in sectors such as education and health.
- Regulators were encouraged to adopt a facilitative role, enabling operators to innovate in areas beyond traditional telecom services, such as digital finance and media content provision. Participants called for a review of outdated taxation systems and suggested collaboration between local operators and international OTT providers to share revenues.
- Emphasis was placed on building robust digital infrastructure as a cornerstone of sustainable technological advancement. Participants highlighted the need for visionary acts and regulations that anticipate future technologies like 5G, AI, IoT, and cloud computing, while promoting regulatory experiments and incentives in the ICT sector.
- A shift towards converged licensing regimes and smarter spectrum management practices were advocated. Current systems that auction both license and frequency and allocate spectrum inefficiently were critiqued. Open licenses, competitive spectrum allocation, and revenue-based taxation were proposed to enhance sector growth and competitiveness.
- There was a collective call for leadership from all stakeholders, including the public sector, to drive regulatory reforms and restore Nepal's leadership position in the regional telecommunications sector. The assurance of significant regulatory changes in the upcoming Telecom Act revisions was welcomed as a positive step towards revitalizing the sector.
- The discussion concluded with a recommendation to trial 5G and other emerging technologies equitably across all telecom operators, promoting fairness and innovation in the industry.

Session 4 –

Digital Innovation for Nepal's Sustainable Development

Speaker:

Dr. Pradip Paudyal, Deputy Director, NTA (Presentation)

Panelists:

Dr. Gunakar Bhatta, Executive Director, NRB

Mr. Ramesh Sharma Paudyal, Joint Secretary, OPMCM

Mr. Anil Kumar Dutta, Joint Secretary, MoCIT

Ms. Binda Magar, Policy Advisor (Governance) and Assistant Resident Representative (Prog) UNDP Nepal

Mr. Arun Khatri, CEO, BitsKraft Nepal

Moderator:

Mr. Hempal Shrestha (Co-founder at Nepal Entrepreneurs Hub)

Presentation: Digital Innovation for Sustainable Development (Synopsis)

Dr. Pradip Paudyal, Deputy Director, NTA

- Transition from analog to digital is digitization, improving business processes through digital technologies is digitalization, and leveraging emerging technologies for overall transformation is digital transformation.
- Despite significant investment in digital and AI transformations by large companies globally, the expected revenue and cost savings have not been fully realized due to challenges in implementation and adoption.
- Innovation is not a linear process driven solely by R&D investment; it involves multiple factors like talent, culture, economic conditions, and market dynamics.
- ITU defines an innovation ecosystem as a network involving public sector, private sector, academia, finance, and support networks. Collaboration among these stakeholders is crucial for sustainable innovation.
- ICTs play a central role in innovation across various sectors of the economy, but there's a significant "Innovation Divide" where not all ecosystems have equal resources or enabling environments.
- There's a disparity in the ability to harness innovation for digital products and services between different countries and communities, hindering inclusive economic growth.
- Nepal's ecosystem faces the challenges of fragmentation among stakeholders and operating in silos rather than collaboratively. Existing frameworks like the Digital Nepal Framework (2019) focus on innovation and technology but may need revision to align with SDGs and broader digital development goals.
- Priority areas for digital development strategy include last-mile connectivity, digital public infrastructure (DPI), artificial intelligence, and addressing gender disparities in digital access and usage.
- Education, gender equality, health, sustainable energy, sustainable cities, and leveraging digital technologies are six crucial transformations for achieving sustainable development goals.
- Dr. Paudyal emphasized the need to review the Digital Nepal Framework in alignment with SDGs, revise telecom/ICT regulatory frameworks to support digital innovations, and shift towards a broader and converged digital regulation strategy rather than sticking to disintegrated multiple regulations.

Panel Discussion: Digital Innovation for Sustainable Development (Summary)

- Emphasis was given to connect the marginalized communities, including women, the uneducated, remote areas, and the poor, to achieve Sustainable Development Goals (SDGs) by 2030.
- Despite the potential of ICT sector to facilitate digital transformation given Nepal's geographical challenges, the prolonged delay of integrating IT into governance sectors was highlighted.
- Acknowledging digital innovation as pivotal for enhancing multiple sectors' growth, the government's officials cited reforms, policies, acts, and regulations that are aimed at promoting digital growth and private sector involvement, thereby generating employment.
- Recognizing the financial sector's significant digitization and its role in fostering growth, development, and sustainability, the representative from Nepal Rastra Bank (NRB) stated that the regulators should incentivize and facilitate innovation by building infrastructure, formulating legal frameworks and introducing supportive licensing regime.
- Necessity of the government support in promoting private sector initiatives was advocated, citing incentive initiatives will impart positive impacts on sectors such as telecommunications, education, health, and agriculture etc.
- It was stressed that there is a need of digitizing government service delivery from federal to local levels to expedite SDG achievement. Resource optimization, infrastructure sharing, interoperability, and data integration to avoid redundancy were emphasized.
- Institutional stability of the regulator was stated to be essential for development of the sector. Digital sectors should reach the youth, remote, and underserved populations by identifying and leveraging opportunities.
- Lack of support for student-led innovative ideas were discussed. It was pointed as one of the main reasons that often leads to migration. It was suggested that the responsible bodies of the government should act to prioritize research and innovation by promoting students and academicians.
- Unbiased appointments of sectoral experts in key positions to drive appropriate policies and regulations essential for digital innovation were called for.
- Coordinated efforts in digitalizing the financial sector were requested and translation of financial digitization into poverty reduction, hunger alleviation, economic growth, and reduced income inequality was anticipated. It was articulated that other sectors can learn from the regulation of financial innovation.

Session 5 –

Closing Remarks

(Outline)

Mr. Ramkrishna Subedi, Secretary, MoCIT

- Mr. Ramkrishna Subedi, Secretary of MoCIT, emphasized the significance of the WTISD 2024 theme, and highlighted the importance of telecommunications and ICT in everyday life. He noted the increasing IT-friendliness of government services in Nepal, which enhances social interaction, service delivery, and socioeconomic development.
- Mr. Subedi pointed out that citizens expect good governance, transparency, and accountability through telecommunications technology. To meet these expectations, the government is finalizing new regulations to adapt to the present context and improve citizen lifestyles.
- He stressed the importance of bridging the digital divide, mentioning the rapid expansion of broadband to support sustainable digital transformation. He also noted the issuance of a new radio frequency policy for effective frequency distribution and the implementation of technology neutrality in all mobile frequency bands from the upcoming fiscal year.
- Mr. Subedi acknowledged the rapid growth in the telecommunications and IT sectors, creating new opportunities. He discussed how technology can increase productivity across various sectors and contribute to achieving SDGs. He highlighted the potential of AI, IoT, and 5G to promote economic empowerment, social participation, and environmental sustainability.
- He mentioned the necessity for neutrality, competitiveness, consumer rights protection, and investment promotion to create a reliable and trustworthy telecommunications ecosystem. He also addressed the challenges posed by policy, legal, and procedural complexities in regulating new technologies.
- Mr. Subedi underscored the importance of digital literacy to protect citizens from cybercrimes. He stated that the government has introduced the Cyber Security Policy, Cyber Security Bill, and National Cyber Security Center.
- He concluded by expressing that the discussions held during the conference were fruitful and that the suggestions and feedback from stakeholders would be valuable inputs for NTA and the government in formulating related policies and regulations. He emphasized the need for a think tank for the ICT sector and highlighted the government's focus on digital transformation, aiming to introduce Nepal as a global IT hub.

Annex – I

Photographs









ITU Standardization

Establishing global standards

ITU Development

Bridging the digital divide

MEMBERSHIP

On the occ
World Telecomm
Information Soc

Hotel Yak & Yeti, Kathman

Panel Discussion

Way Forward on ICT/Telecom Regulation

Panelist

- Mr. Rabindra Jha
Board Member, NTA
- Mr. Bhesh Raj Kanel
Telecom Expert
- Mr. Nabhonil Roy
Digital Government Expert, ITU
- Mr. Forhadul Parvez
Program Officer, APT
- Mr. Biswash Regmi
ICT Journalist

Moderator

NTA

Conference on SUSTAINABLE TELECOMMUNICATION SECTOR IN NEPAL

On the occasion of World Telecommunication and Information Society Day, 2024

Hotel Yak & Yeti, Kathmandu, Friday, May 17, 2024

Digital innovation for sustainable development

n marks a radical rethinking of how
technology, people, and processes
change business performance

Research Scientist





Conference Organizing Committee:

- Dr. Pradip Paudyal, Deputy Director, NTA**
- Mr. Sagar Kumar Bhattarai, Assistant Director, NTA**
- Er. Pabitra Mani Dahal, Assistant Director, NTA**
- Er. Sujan Shakya, Assistant Director, NTA**
- Mr. Rajendra, Assistant Director, NTA**

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