

ITU Council Working Group on International Internet-related Public Policy Issues (CWG-Internet)

"Ensuring meaningful connectivity to the Internet for landlocked developing countries (LLDCs)"

[Contribution by Malaysia]

Short Summary

Malaysia's contribution to the ITU CWG-Internet consultation highlights a multi-dimensional strategy to support Landlocked Developing Countries ("**LLDCs**") in achieving meaningful Internet connectivity. It emphasises the persistent structural and policy challenges that hinder digital inclusion, such as limited infrastructure, affordability constraints, and gaps in institutional capacity. These issues are particularly pronounced in remote and underserved areas, where access remains sparse or unreliable.

Malaysia underscores the need for a comprehensive approach that includes effective governance, sustainable investment models, cross-border cooperation, and inclusive regulatory frameworks. Malaysia advocates for capacity-building, policy innovation, and infrastructure development, both terrestrial and non-terrestrial, as essential components in bridging the connectivity divide and supporting equitable digital transformation in LLDCs.

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1. What strategies can be adopted to ensure meaningful connectivity to the Internet for LLDCs?

For LLDCs, a foundational strategy is to establish reliable and affordable international connectivity by partnering with neighbouring transit countries. This includes negotiating fair and non-discriminatory access to cross-border fibre-optic infrastructure. The International Telecommunication Union (“**ITU**”) Final Acts of the Plenipotentiary Conference (Bucharest, 2022)¹ (“**ITU PP-22**”) Resolution 30 strongly encourages the development of such international interconnectivity, recognising it as a key enabler for LLDCs to access global Internet infrastructure.

Developing regional Internet Exchange Points (“**IXPs**”) and terrestrial fibre-optic corridors reduces dependency on expensive upstream providers. These initiatives enhance network performance, lower costs, and increase resilience. ITU PP-22 Resolution 25 supports the role of regional and area offices in facilitating such initiatives, especially in underserved areas.

According to the ITU’s Facts and Figures: Focus on Landlocked Developing Countries² (“**ITU Facts and Figures Report**”), Internet usage in LLDCs remains at only 39%, far below the global average of 68%. This underscores the need for inclusive digital access programmes, affordability mechanisms, and user-level enablers such as local content, language accessibility, and digital literacy.

¹ Final Acts of the Plenipotentiary Conference (Bucharest, 2022). Accessible at <http://handle.itu.int/11.1002/pub/81da0d1c-en>

² Facts and Figures: Focus on Landlocked Developing Countries (July 2025). Accessible at <https://www.itu.int/itu-d/reports/statistics/facts-figures-for-lldc/>

Malaysia’s Efforts:

Malaysia’s National Digital Network Plan (“**JENDELA**”) demonstrates how targeted policies and streamlined implementation can rapidly close access gaps. As of March 2025, JENDELA achieved over 98.70% mobile broadband coverage and exceeded the fibre rollout target with over 9.24 million premises passed. The approach was supported by policies that treat communications as a public utility, simplify infrastructure approvals, and align state and federal regulations.

2. What unique challenges do LLDCs face in attaining meaningful connectivity to the Internet, and what specific policies and measures can be taken, in particular, regarding the following:

Aspects	Challenges	Policies / Measures	Malaysia’s Efforts
Affordability	Internet access costs remain high in many LLDCs, where affordability continues to be a major obstacle to digital inclusion, with broadband prices often well above global medians. These high prices are linked to insufficient international connectivity infrastructure, which limits available bandwidth to less than half the global average. The cost	Governments should promote infrastructure-sharing and negotiate regional transit arrangements to reduce dependency and lower costs. Public-private partnerships and innovative financing models, as encouraged in ITU PP-22 Resolution 30, are essential for affordable access.	Malaysia adopts the Mandatory Standard on Access Pricing (“ MSAP ”), which reduces wholesale broadband rates to ensure affordability for users. This regulatory intervention improved price competitiveness and expanded access, especially for underserved populations.

Aspects	Challenges	Policies / Measures	Malaysia's Efforts
	burden disproportionately affects rural areas, where up to 21% of the population cannot access the Internet due to a lack of adequate network coverage. (ITU Facts and Figures Report)		
Quality of Bandwidth or Communications	In LLDCs, weak and insufficient connectivity infrastructure, including limited international bandwidth and unavailable fixed broadband networks, contributes to slow and unreliable Internet access. These challenges are particularly acute in rural regions, where over 20% of the population lacks any mobile broadband access, relying at best on outdated 2G networks. (ITU Facts and Figures Report)	Upgrading national infrastructure, expanding rural networks, and investing in IXPs and local caching will improve quality. ITU PP-22 Resolution 64 supports non-discriminatory access and regional peering, which are essential for reducing latency and enhancing bandwidth efficiency.	Malaysia established multiple Internet Exchange Points ("MyIX") to improve domestic peering and reduce latency. By encouraging content localisation and data caching, Malaysia enhances bandwidth quality nationwide. According to data from MyIX, the nation's Internet traffic surged by 17% year-on-year, reaching an all-time high of

Aspects	Challenges	Policies / Measures	Malaysia's Efforts
			2.6 Terabits per second (Tbps). ³
Investment	Many LLDCs face persistent challenges in attracting investment in ICT infrastructure, due to logistical constraints, trade route dependence, and limited regulatory maturity. Over half remain in early stages of ICT regulation, which hinders their ability to foster competition and secure both domestic and international investment. (ITU Facts and Figures Report)	A stable regulatory framework with clear incentives is crucial to attracting capital. Governments should adopt blended finance models and risk-mitigation tools, while ITU and its partners support project development and technical assistance under ITU PP-22 Resolution 135.	Malaysia fosters private sector participation through clear regulatory frameworks, as seen in JENDELA, which includes targeted investment in broadband infrastructure, blending public funding with private investment.
Infrastructure	Due to their landlocked geography, LLDCs rely on neighbouring countries for international connectivity, resulting in higher costs and limited infrastructure	LLDCs should strengthen their national backbone networks and negotiate equitable agreements with transit countries. Cross-border ICT	Malaysia's commitment to rural infrastructure deployment under JENDELA focuses on expanding mobile and fixed broadband access in

³ Malaysia's internet traffic climb exponentially in 2024 – MyIX. Accessible at <https://www.nst.com.my/business/corporate/2025/03/1194198/malaysias-internet-traffic-climb-exponentially-2024-myix>

Aspects	Challenges	Policies / Measures	Malaysia's Efforts
	access. Fixed broadband networks remain unavailable in many parts of these countries, especially in rural areas, where over 20% of the population cannot access the Internet at all. (ITU Facts and Figures Report)	infrastructure development, as promoted in ITU PP-22 Resolution 30, is critical to improving connectivity and reducing exclusion.	remote areas, with a strong emphasis on supporting 5G readiness. The initiative leverages cost-effective public-private sharing models to accelerate infrastructure rollout and ensure inclusive nationwide connectivity.
Enabling Environment	Many LLDCs remain at early stages of ICT regulatory development, with fragmented policy frameworks and limited institutional capacity to implement reforms. These implementation gaps hinder innovation and reduce the ability to attract investment in digital infrastructure and services. (ITU Facts and Figures Report)	Governments should reform licensing procedures, modernise regulations, and align with global standards. ITU regional offices, as outlined in ITU PP-22 Resolution 25, can assist in policy alignment and regulatory capacity-building tailored to LLDC-specific needs.	Through the Malaysia Communications and Multimedia Act and Malaysia Digital Economy Blueprint, Malaysia provided a forward-looking regulatory framework. These instruments promote innovation, competition, and investment, while ensuring inclusion and market readiness.
Security & Resilience	Although over 80% of LLDCs had cybersecurity policies in place by	National cybersecurity strategies should be adopted,	Malaysia enhances national cyber readiness through the

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	<p>2023, many still lack the institutional capacity to implement and enforce these frameworks effectively. The absence of comprehensive digital protection and response mechanisms increases their vulnerability to cyber threats and hampers the secure adoption of digital services. (ITU Facts and Figures Report)</p>	<p>alongside the establishment of Computer Emergency Response Teams ("CERTs") and resilient infrastructure. As recommended in ITU PP-22 Resolution 130, regional cooperation and capacity-building are essential to enhance trust, security, and continuity in ICT use.</p>	<p>implementation of the Cyber Security Act 2024, which strengthens regulatory oversight, mandates incident reporting, and formalises the responsibilities of critical sectors. Complementing this, the proposed Online Safety Bill aims to improve digital platform accountability and safeguard users from online threats.</p>

3. What can ITU Membership, governments and other stakeholders, including those from transit countries, do to ensure meaningful connectivity to the Internet for LLDCs?

Transit countries must facilitate fair and affordable access to global infrastructure for LLDCs. ITU PP-22 Resolution 64 calls on Member States to avoid discriminatory practices and ensure cooperative interconnection arrangements. Infrastructure-sharing and transparent pricing agreements can help lower barriers and promote regional digital inclusion.

The broader ITU membership, including governments and sector members, plays a crucial role. ITU PP-22 Resolution 30 instructs the ITU to regularly assess LLDCs' needs and mobilise resources to support tailored ICT development initiatives. These efforts must include technical assistance, training, and support for pilot projects.

National governments of LLDCs must integrate ICT into their development strategies and work with regional and international partners to align digital priorities. Engaging local academic and business communities helps to localise innovation and strengthen national ecosystems. The ITU Facts and Figures Report emphasises that strengthening institutional capacity is essential for public sector development and successful digital transformation, particularly in LLDCs.

Lastly, ITU PP-22 Resolution 25 reinforces the need to strengthen ITU's regional offices so they can more directly support LLDCs in implementing infrastructure projects, regulatory reforms, and digital inclusion efforts. A shared, sustained commitment from all stakeholders, including transit countries, donors, industry, and LLDCs themselves, is essential to closing the digital gap.

Malaysia's Efforts:

Malaysia has embraced ITU multilateralism through active participation in Partner2Connect, pledging significant contributions to broadband, e-waste, and digital literacy. Notable initiatives by Malaysia under the Partner2Connect include:

Malaysia's Initiatives	Status / Updates															
<p>JENDELA</p>	<p>JENDELA was launched in September 2020 with the goal of improving the quality of digital infrastructure and services across the country. Below are JENDELA's achievements as compared to before its implementation in 2020.</p> <table border="1" data-bbox="808 411 2029 911"> <thead> <tr> <th data-bbox="808 411 1245 512">Aspects</th> <th data-bbox="1245 411 1688 512">2020 (Before JENDELA)</th> <th data-bbox="1688 411 2029 512">Achievements in 2025</th> </tr> </thead> <tbody> <tr> <td data-bbox="808 512 1245 612">5G Coverage at Populated Area</td> <td data-bbox="1245 512 1688 612">5.8%</td> <td data-bbox="1688 512 2029 612">82.4% (as of April 2025)</td> </tr> <tr> <td data-bbox="808 612 1245 713">Internet Coverage at Populated Area</td> <td data-bbox="1245 612 1688 713">91.80%</td> <td data-bbox="1688 612 2029 713">98.70% (as of March 2025)</td> </tr> <tr> <td data-bbox="808 713 1245 813">Premises Passed with Fibre Connectivity</td> <td data-bbox="1245 713 1688 813">4.96 million</td> <td data-bbox="1688 713 2029 813">9.24 million (as of March 2025)</td> </tr> <tr> <td data-bbox="808 813 1245 911">Mobile Broadband Speed (Mean)</td> <td data-bbox="1245 813 1688 911">25 Mbps</td> <td data-bbox="1688 813 2029 911">169.04 Mbps (as of March 2025)</td> </tr> </tbody> </table>	Aspects	2020 (Before JENDELA)	Achievements in 2025	5G Coverage at Populated Area	5.8%	82.4% (as of April 2025)	Internet Coverage at Populated Area	91.80%	98.70% (as of March 2025)	Premises Passed with Fibre Connectivity	4.96 million	9.24 million (as of March 2025)	Mobile Broadband Speed (Mean)	25 Mbps	169.04 Mbps (as of March 2025)
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<p>National Information Dissemination Centres ("NADI")</p>	<p>By providing shared internet access, NADI empowers local communities to explore new opportunities, unlocking their potential for both personal advancement and economic growth. The introduction of NADI Smart Services in July 2024 further elevated the quality of life and digital literacy among Malaysians, especially in underserved areas. Below are NADI's key achievements:</p>															

Malaysia's Initiatives	Status / Updates	
	Aspects	Achievements in 2025
	No. of NADI Centres	1,098 (as of July 2025)
	No. of NADI Members	1.7 million (as of June 2025)
	No. of Participants for NADI Smart Services	623,315 (as of June 2025)
	No. of Participants in Entrepreneurship Programme under NADI Smart Services	9,337 (as of June 2025)
KITAR (E-Waste Management)	The KITAR initiative establishes a self-sustaining, nationwide e-waste collection and recycling system using digital tracking (KITARSys), a buy-back model, and extensive public outreach. With over 165 drop-off points and 20,000 units of e-waste collected, KITAR demonstrates a scalable, multi-stakeholder model.	

These examples underscore Malaysia's readiness to collaborate and share knowledge with LLDCs through regional partnerships and ITU platforms, as Malaysia remains committed to fostering inclusive and cooperative digital development.