DIGITAL STRATEGY FOR EDUCATION 2025-2035

MINISTRY OF EDUCATION AND SPORTS, LAO PDR
OCTOBER 2024

Lao People's Democratic Republic
Peace Independence Democracy Unity Prosperity

Ministry of Education and Sports — No. 7592 /MOES

Vientiane Capital, dated 14 October 2024

Decision
On the Approval and Launch
Of the Digital Strategy for Education 2025-2035

- Pursuant to decree on MOES organization and mandates, No. 633/PM, dated 18 November 2021;
- Pursuant to the letter from the Information and Communication Technology Center for Education and Sports No. 291/ICT, dated: 05 September 2024, and letter from the Department of Planning No. 5117/DP, dated: 11 October 2024.

Minister of Education and Sports Decides as follows:

Article 1: To officially approve and launch the Digital Strategy for Education 2025-2035.

Article 2: The Information and Communication Technology Center for Education and Sports takes the leading role in collaboration with relevant technical departments and related parties to disseminate and implement this Digital Strategy for Education 2025-2035 in a fruitful manner.

Article 3: The Cabinet Office, line departments of MoES, equivalent agencies, institutes, Provincial and Vientiane Capital Education and Sports Services. Education and Sports Bureaus, District, Municipal, educational institutions and all related parties should recognize, cooperate and work together to implement this strategy fruitfully.

Article 4: This decision takes effect on the date it is signed.

Minister

Signed and sealed

Assoc. Prof. Dr. Phout SIMMALAVONG

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

This document outlines our strategic approach to transforming the education landscape in Laos through Information and Communication Technology (ICT). It encompasses all education sectors, from early childhood education to higher education across formal, non-formal and informal education. It also includes transformation across all levels of the Ministry of Education.

We aim to use Information and Communication Technology (ICT) to enhance the quality of education, increase access to education, and improve the efficiency of the education sector. This document outlines our strategic approach towards achieving these goals, considering the current state of ICT in Laos, relevant regional frameworks, and the support from international and multilateral organisations. The strategy addresses the current state of ICT in Laos, regional frameworks, and support from international organisations. We align our goals with UNESCO Bangkok's Asia-Pacific Regional Strategy on Positioning ICT to Achieve the Education 2030 Agenda, guiding our response to ICT challenges and opportunities in education. This Strategy will be followed by a five-year action plan across sub-sectors to support its implementation.

KEY COMPONENTS OF THE STRATEGY INCLUDE:

Current State of ICT in Laos: A comprehensive overview of the existing ICT infrastructure, digital literacy levels, and technology access in urban and rural areas.

Strategic Plan for ICT Integration: Our plan emphasises integrating ICT into education service delivery. This includes:

- **Digital Access:** Ensuring equitable access to ICT infrastructure and devices.
- **Digital Skills:** Building digital literacy and competencies among educators, students, and administrators.
- **Information Systems:** Enhancing data management and use for informed decision-making.
- **Learning Management Systems:** Leveraging digital platforms to support teaching and learning.

This strategy aims to guide to our approach towards digital transformation in education, based on established principles, for digital development, setting the path for a future where every learner in Laos can access quality education supported with effective use of ICT.

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ACKNOWLEDGEMENTS

ACKNOWLEDGEMENTS

The Ministry of Education and Sports extends its deepest gratitude and appreciation to all the individuals and organisations whose contributions have been invaluable in the development of the Digital Strategy for Education in Lao PDR. We would like to extend a special thank you to Ministry of Technology and Communications (MTC), Ministry of Energy and Mines (MEM), and Private Sector including Lao ICT and Digital Association (LIDA), Unitel, ETL, Lao Telecom and others.

We are also grateful for the support and collaboration from our development partners, including the European Union, the Australian Government, the Government of China, UNICEF, JICA, the World Bank, the Korea International Cooperation Agency (KOICA), Catholic Relief Services, UNESCO and other partners providing support through the Education Sector Working Group (ESWG) and Focal Group for Education Administration and Management.

Each of these contributions has been essential in our journey towards enhancing educational opportunities and digital integration in Lao PDR.

ACRONYMS

ASEAN	Association of Southeast Asian Nations
BES	Beyond Essential Services
EU	European Union
ICT	Information and Communication Technology
KOICA	Korea International Cooperation Agency
LANIC	Lao National Internet Center
LESMIS	Lao Education and Sports Management Information System
LSB	Lao Statistics Bureau
MEM	Ministry of Energy and Mines
MoES	Ministry of Education and Sports
MoHA	Ministry of Home Affairs
MoIC	Ministry of Industry and Commerce
MTC	Ministry of Technology and Communications
Lao PDR	Lao People's Democratic Republic
SDG	Sustainable Development Goal
UNESCO	United Nations Educational, Scientific & Cultural Organisation
UNICEF	United Nations Children's Fund

03

BACKGROUND

3.1 DIGITAL EDUCATION

Digital Education refers to the approach to using technology to enhance the quality and service delivery of the education sector. Leveraging technology to support teaching and learning practice through the use of digital platforms and tools, while supporting the administration of the education system with access to information to support evidence-based decision-making.

Digital Education is becoming more important in people's lives throughout Laos, with the government and other stakeholders recognising the potential of digital education to improve the quality of education. By effectively integrating digital technologies into the education system, we aim to support outcomes such as;

- **enhance student learning outcomes,**
- **increase access to educational resources, and**
- **improve efficiency of educational management.**

In this context, the Ministry of Education and Sports, with support from UNICEF and the EU, has successfully launched Khang Panya Lao, a national digital teaching and learning platform designed to ensure educational continuity during emergencies and to enhance everyday learning. Khang Panya Lao has been instrumental in improving digital literacy among students and providing necessary training for teachers, supporting the shift towards a digital transformation of the education sector (UNICEF, 2021; UNICEF Lao PDR, 2021).

In the Ministry of Education and Sports there has also been substantial progress made in establishing a centralised education management information system, based upon the LESMIS platform supported by external software developer Beyond Essential Services (BES). This single view into the current collection of data and information has provided an improved method of accessing vital information for policy and planning purposes (UNICEF, 2022).

These initiatives by the Lao government and international partners demonstrate a strategic commitment to digital transformation, improving accessibility and quality of education, aligning with global educational standards (Global Partnership for Education, 2021).

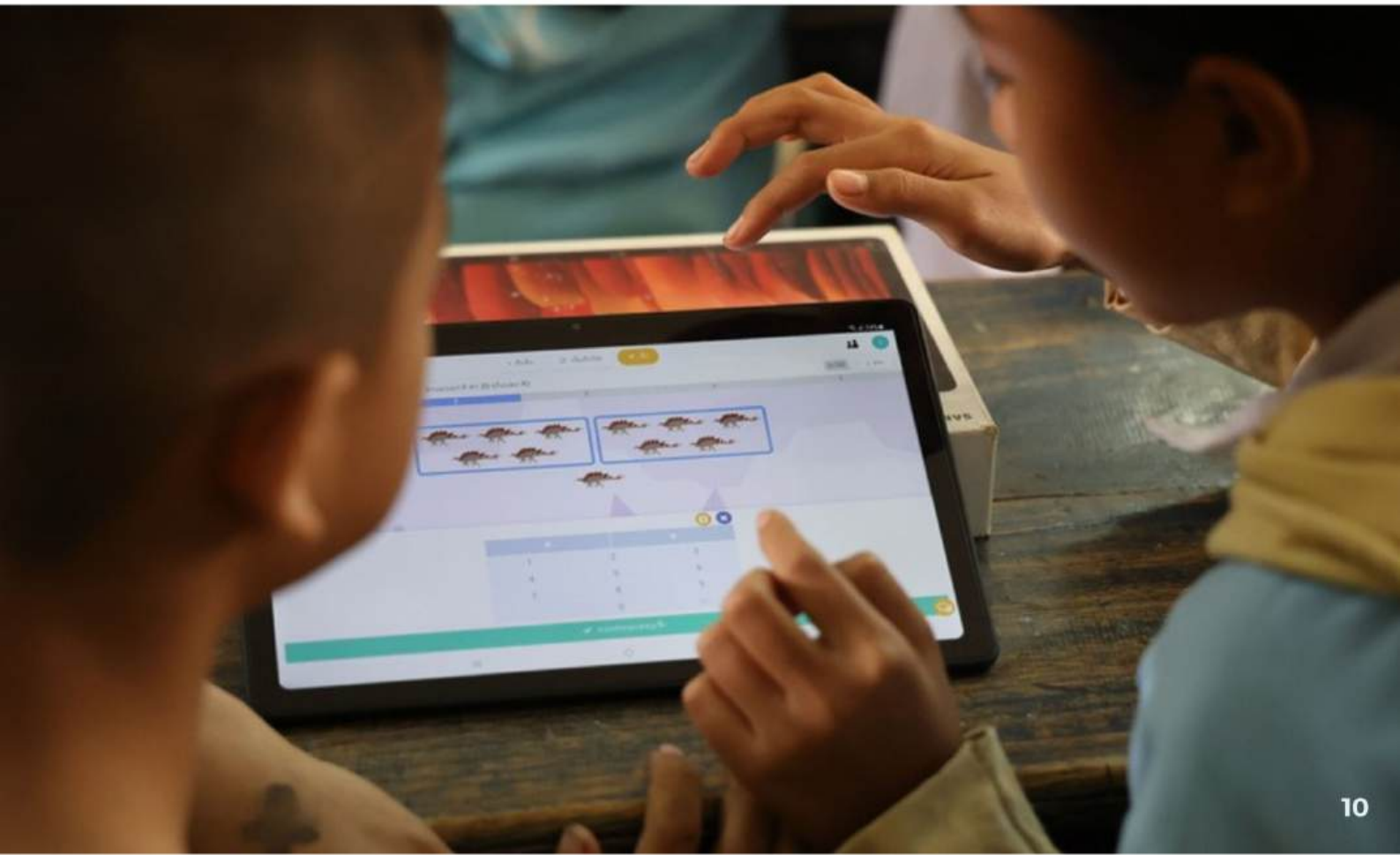
3.2 INTERNATIONAL CONTEXT

Digital education is rapidly evolving globally, driven by advancements in technology and increased access to internet-connected devices. Countries worldwide recognise the potential of digital education to improve service delivery educational outcomes and promote inclusive learning.

In this international context, the United Nations' Sustainable Development Goal 4 (SDG 4) promotes inclusive and equitable quality education and lifelong learning opportunities for all. This includes a focus on using information and communication technology (ICT) to enhance access to quality learning materials and to improve the teaching-learning process.

The UNESCO 2023 Global Education Monitoring Report emphasises the importance of making technology a tool that complements human interaction in learning, rather than replacing it. This supports our approach to inclusive and equitable education by ensuring technology serves all learners' interests, particularly in enhancing the quality and accessibility of education.

While the 2022 UN Transforming Education Summit underlined the need for education systems to be adaptive, inclusive, and responsive to global changes, reinforcing the role of digital technology in promotion of lifelong learning and skill development, crucial for achieving SDG 4. (UNESCO, 2023)



3.3 REGIONAL CONTEXT

Digital education is gaining significant attention in the Asia-Pacific region, with many countries recognising the transformative potential of digital technologies in education. Investments in digital infrastructure, teacher training, and the development of digital educational resources are driving the region's progress toward digital education.

The Asia-Pacific Regional Strategy on Using ICT to Facilitate the Achievement of Education 2030 provides a valuable framework for regional cooperation in digital education. Regional cooperation is vital for sharing best practices, coordinating initiatives, and accelerating digital transformation in the education sector.

The Bangkok Statement 2022 emphasises the need to make education systems more resilient against future crises by creating a robust digital education ecosystem. This includes ensuring free and equitable online education access, quality e-learning programs, relevant teacher training, and safe digital technology use. It also recognises the importance of low-tech and no-tech distance learning solutions to bridge the digital divide, especially in regions with limited digital infrastructure.

ASEAN ICT Masterplan 2020 and Digital Masterplan 2025 aims to propel ASEAN towards a digitally-enabled economy that is secure, sustainable, and transformative. These frameworks focus on economic transformation, people empowerment, innovation, infrastructure development, and human capital development. Laos aligns its national digital strategies with these regional frameworks to further its socio-economic development and modernisation efforts.

Use low-tech and no-tech distance earning solutions to bridge the digital divide.

3.4 CRITICAL EMERGING TECHNOLOGY

The rapid advancement of technology is set to have real implications for the implementation of Digital Education Strategy in Lao PDR. Over the next decade, emergence of sophisticated artificial intelligence (AI) systems will play a important role in transforming education in Laos. These emerging technologies offer new opportunities for in a number of sectors but in relation to the education sector, they are set to have tremendous impact on enhancing teaching learning, and supporting improved administrative efficiency.

Emerging AI systems are capable of performing complex tasks that mimic human capabilities such as language processing, content creation, and personalised learning support. Unlike traditional search engines, these AI systems predict answers based on high-quality inputs and human feedback, making them powerful tools for various educational applications including:

LEARNING	TEACHING	ADMINISTRATION
Individual Support: AI systems can provide individual tutoring, personalised feedback and targeted support to learners, helping them understand complex concepts at a pace that suits individual students.	**Resource Preparation:** AI can assist teachers in creating, adapting, and translating lesson plans, textbooks, and teaching materials, making educational resources more accessible and easier to understand.	**Data Management:** AI systems can simplify the management of educational data, cleaning and integrating datasets, analysing enrolment, teacher and, modelling financial, and providing analysis of assessment data thru advanced analytics.
Content Creation: AI can create and adapt learning content, generating personalised summaries, translations, and converting text-based resources into multimedia such as audio or video or image formats.	**Classroom Management:** AI tools can automate routine tasks such as marking and grading, allowing teachers to focus more on the preparation of more interactive and engaging teaching activities.	**Communication:** AI can streamline communication with parents and administrators, generating student report cards, school performance results and useful recommendations .

Laos is committed to enhancing digital skills among educators, updating the pre-service training curriculum with teacher training colleges to include the use of AI and Generative AI (GenAI). This systematic approach aims to increase the knowledge and skills of new educators, preparing them to use these emerging technologies in their teaching practice. With skills development focused on understanding trends in this emerging technology and exploring the potential role of AI in education. Developing enhanced assessment methods in response to the new capabilities while learning how to make the most of tools for content creation and optimisation digital and mobile distribution.

These first steps mark the introduction of AI into the Education system of Laos and provides important foundations in AI literacy for a more systematic integration of advanced AI systems into the sector. However, as highlighted in advice to policy makers, several challenges must be addressed to prepare for these emerging technologies (UNESCO, 2021).

Introduction of AI in education raises questions about the future roles of teachers. While AI can support teachers by automating administrative tasks and providing insights through learning analytics, it should not replace the human interaction and collaboration with students that is essential to education.

Digital applications in education must be designed to be inclusive and equitable. This means ensuring that AI tools do not accelerate the digital divide and that they are accessible to all students. While special attention should be given to avoiding gender biases and promoting gender equality in AI applications.

Finally there is still limited evidence on the efficacy of AI tools in improving learning outcomes. Therefore policy-makers need to critically assess the actual benefits of AI tools in education and ensure that they are grounded in solid evidence rather than hype.

By addressing these challenges, Laos can harness AI's potential to enhance educational outcomes, promote inclusivity, and ensure equitable access to quality education. This considered approach will position Laos to ensure the adoption AI in education is appropriate and effective in the Laos context.

3.5 LAO PDR COUNTRY CONTEXT

Committed to improving its socio-economic status, Laos has embarked on a path of steady modernisation, leveraging its natural resources and attracting foreign investment. In recent years, the government has made significant strides in strengthening the national education system and enhancing access to quality education, with a particular focus on digital transformation. These efforts aim to support the country's broader development goals and equip the population with essential 21st-century skills.

The Lao National Statement of Commitment to Transforming Education (2022) underscores the country's dedication to leveraging technology and innovation in education. This national statement highlights the importance of integrating advanced digital tools and methodologies to enhance learning outcomes and educational equity.

Moving forward, there is a need for stronger coordination mechanisms across different ministries and sectors to streamline digital initiatives and avoid fragmentation. The establishment of the Digital Transformation Agency within the Digital Government Office is set to oversee digital investments and enable better coordination across the Government of Laos (GoL).

Ensuring equitable access to digital resources and addressing the digital divide are critical issues. While policies are being developed to support disadvantaged and at-risk students, more effort is needed to ensure inclusive and equitable digital education.

Laos still faces significant challenges in its digital infrastructure, limiting the country's ability to fully leverage digital technologies for socio-economic development. Recommendations designed to support digital transformation across the country include upgrading physical infrastructure, increasing the affordability of telecom services, and expanding digital literacy programs. These measures are crucial for achieving broader access to quality education and economic opportunities (World Bank, 2019).

Finally, there are ongoing concerns about sustainable financing for digital initiatives. Much of the current progress has been supported by development partners and bilateral donors. Ensuring adequate and sustained domestic funding is crucial for the long-term success of digital transformation efforts in education.

POPULATION & DEMOGRAPHICS

Lao PDR has a young population, with a substantial portion under the age of 25. This demographic profile creates a high demand for educational services. According to the most recent data, there are approximately 1.6 million students enrolled in primary and secondary education across the country.

ENROLMENT

The enrolment rates in Lao PDR have shown improvement over the past decade. As of the latest data, the gross enrolment ratio (GER) for primary education is approximately 98%, while the net enrolment ratio (NER) stands at around 92%. Secondary education enrolment is lower, with a GER of about 62% and an NER of around 55%. These figures indicate that while access to primary education is relatively high, there are still significant drop-off rates as students progress to secondary levels.

TEACHER WORKFORCE

The education system in Lao PDR is supported by approximately 75,000 teachers. However, there is a disparity in the distribution and qualifications of teachers between urban and rural areas. Rural schools often face challenges such as multi-grade teaching and reliance on volunteer or non-specialist teachers. Out of the total teaching workforce, over 6,000 are volunteer teachers who are government-trained but not paid state salaries.

SCHOOL INFRASTRUCTURE

Lao PDR has around 14,000 schools, but the quality of infrastructure varies significantly. While the national electrification rate is about 90%, only 34% of schools in the 40 priority districts (identified for poor educational performance and high food insecurity) have reliable electricity. This lack of reliable power affects the ability to integrate ICT in education effectively.

FINANCIAL CONTEXT

Education financing in Lao PDR has faced significant challenges, particularly with decreasing government allocations and increasing economic pressures. Public education financing has fallen in real terms since 2018 and has halved relative to GDP over the past decade. In 2023, education spending was about 1.5% of GDP, a decline from previous years. The fiscal crisis has forced the government to prioritise debt interest payments, reducing the funds available for education.

3.6 NATIONAL POLICY ENVIRONMENT

Several existing strategic plans will guide the development of the ICT strategy for education in Laos. These include:

- **National Digital Economy Development Vision (2021 - 2040)**
- **10-year National Digital Economy Development Strategy (2021 - 2030)**
- **5-Year National Digital Economy Development Plan (2021 - 2025)**

These plans provide a foundation for aligning the Digital strategy for education with the national vision for digital transformation, focusing on infrastructure development, human resources development, and policy development. However, several policy gaps need to be addressed to fully integrate ICT into the education sector.

The legislation and policy environment in Laos is continuously evolving to support the country's digital transformation. Several key policies and laws have been enacted to facilitate the transition towards a digital economy and promote digital equity.

1. **Law on Electronic Transactions (2013):** Regulates electronic transactions and related activities in Laos, promoting the use of electronic transactions in business and government services, and ensuring the security and reliability of these transactions.

2. **Cybercrime Law (2015):** Enacted to prevent and combat cybercrime, defining various types of cybercrimes and establishing penalties for offenders.

3. **Law on ICT (2016):** Provides the legal framework for developing and using information and communication technology in Laos. It aims to promote the development of ICT infrastructure, services, and applications, and to encourage the use of ICT in various sectors, including education, health, and government services.

4. **Data Protection Law (2017):** Regulates the collection, processing, and use of personal data, aiming to protect the privacy rights of individuals and ensure the security of personal data.

5. **Digital Economy Master Plan (2021):** Outlines the strategies and actions for developing the digital economy in Laos, focusing on key areas such as digital infrastructure, digital government, digital skills, and digital innovation.

6. **Decree on Digital Government (2022):** Provides guidelines for implementing the digital government initiative in Laos, aiming to transform government services through the use of digital technology and to improve the efficiency and transparency of government operations.

The creation of the National Internet Management Committee and the implementation of laws such as the Law on Electronic Data Protection and the Law on Digital Signature are steps towards a more robust regulatory framework.

Overall, while there has been significant progress in the policy environment for digital transformation in Lao PDR's education sector, substantial challenges remain to ensure effective, equitable, and sustainable digital education. Implementing these policies and laws presents several challenges, including capacity building, infrastructure development, and the promotion of digital literacy.

3.7 SITUATION ANALYSIS OF DIGITAL EDUCATION IN LAOS

Digital education in Lao PDR is in the early stages of development, but significant progress has been made in recent years. Key developments include the establishment of ICT centres in each of the provincial centres in 2016, with financial support from China. This initiative marked the first e-education investment in Laos, laying the foundation for further digital education advancements. While more recent investments include the establishment of centralised learning management systems (LMS) and education management information systems (EMIS), reflecting the government's commitment to advancing ICT in education.

KHANG PANYA LAO (KPY) LEARNING MANAGEMENT SYSTEM

KPY is a comprehensive digital resource hub featuring 378 courses and over 6,500 lessons spanning pre-primary to upper secondary and TVET levels.

LAOS EDUCATION AND SPORTS MANAGEMENT INFORMATION SYSTEM

LESMIS provides a centralised view of educational data, aiding in policy and planning. Improved access to vital information for decision-making, enhancing the efficiency of educational management.

ICT COMPETENCY STANDARDS FOR TEACHERS (CST)

Established with the support of UNESCO to define the digital competencies required for teachers. Incorporation of digital literacy and ICT skills into pre-service and in-service teacher training programs.

Despite these advancements, Laos faces significant challenges in its digital education landscape. One of the primary challenges is the digital divide between urban and rural areas. While urban schools have better access to digital devices and internet connectivity, rural schools often rely on mobile phones as their primary means of accessing digital resources. Infrastructure limitations also pose a challenge. Although electrification rates have increased, many rural schools still lack reliable electrical infrastructure.

DIGITAL ACCESS

In terms of the current level of digital access, the situation at both the education administration and school level highlights some disparity between urban and rural schools in terms of power, devices and internet. Access to power has significantly increased overall with electrification rates increasing in Laos from 15% in 1995 to 90% in 2019, demonstrating substantial progress in national energy access. However, despite these advancements, the electrification within the education sector remains uneven. While most urban primary schools benefit from a stable power supply, many rural primary schools still lack basic electrical infrastructure.

As of 2018, while 97.4% of urban areas had electricity, only about 80.3% of rural areas were electrified, highlighting the ongoing challenges in providing equitable access to electricity (The Borgen Project, 2019). Device ownership among school leaders and education officials in Laos is relatively high, with many already owning smartphones. However, smartphone ownership among teachers remains varied, with many still using basic phones.

This discrepancy in digital device access not only affects the digital literacy levels of the staff but also significantly impacts the students' learning experience.

While educators with smartphones can effectively use various educational apps and online resources, those with basic phones are unable to use these digital tools. Such disparities can potentially lead to inequalities in the quality of education delivered to students. The situation reflects broader digital literacy challenges as noted in UNICEF's report on digital transformation in education within Laos (UNICEF, 2021). In 2020, only 43% of Laos' population had access to the internet, a figure significantly lower than the 70% average in the East Asia and Pacific region. Additionally, mobile phone subscriptions in Laos stood at 61 per 100 people, considerably lower than the regional average of almost 126 per 100 people. While the affordability of internet services also poses a significant challenge. This high cost represents a significant barrier to digital adoption and limits digital access (World Bank, 2020).

DIGITAL SKILLS

The Ministry of Education and Sports, supported by TICA and KOICA, has made significant progress in enhancing digital literacy among educators and administrators. With training initiatives established in 2014 with foundational training for key personnel in Korea, following years focused training on master teachers, IT experts, and studio engineers across different provinces, with a strong emphasis on practical ICT applications in education. More recently, the Ministry of Education and Sports has made important strides forward in establishing a clear understanding around its expectations of the digital literacy and skills required of teachers to be able to utilise ICT as part of the teaching and learning process.

Work led by UNESCO has included the establishment of the competency standards framework for ICT for teachers (UNESCO, 2022) and the establishment of a curriculum of preservice training materials to be delivered through the teacher training colleges. In parallel the Ministry of Education and Sports ICT Center with funding provided through the Global Partnership for Education, supported by World Bank has been able to provide professional development for administrators at the provincial level for the use of office productivity tools and collaboration platform of MoES.

While more recently, this training has been extended to District Education Offices, focusing the training on the use of office productivity tools, and general ICT equipment maintenance and troubleshooting (World Bank, 2023). These examples demonstrate the commitment to providing ICT training for educators and administrators, drawing upon the existing institutions and facilities within MoES. However, there remains a need to provide more sustainable and efficient method for up-skilling for both educators and administrators in digital skills, providing onboarding to government platforms for communication and collaboration and systems in parallel to information and learning management systems.

DIGITAL INFORMATION

The Lao PDR Education and Sports Management Information System (LESMIS) is a GIS-enabled platform for data aggregation, analysis, and visualisation aimed at improving data management and utilisation for monitoring, planning, and policymaking. Originally established to streamline monitoring and planning processes, LESMIS integrates data from a number of sources, including an annual school survey that collects vital information for statistical reporting and planning. (Ministry of Education and Sports, 2023).

LESMIS has made an important step forward in establishing a centralised data management system and integrating various databases. These improvements, executed through a strategic two-phase development plan from 2018-2022, have enhanced data quality and accessibility, with the first phase focusing on system coordination and the second on database integration, while aiming to enable individual student records management in future.

Currently LESMIS integrates multiple sub-sector MIS, including EMIS and FMIS. Some databases are under development, and at least 752 automatic reports are already available in EMIS forms for future integration into LESMIS. Official statistics reports for the academic year are produced quickly and easily, showcasing advancements in LESMIS development and application.

At a policy level, key regulatory measures guiding LESMIS include the Ministerial Instruction on Education and Sports Management Information System and Database Development (2017), and the Ministerial Agreement on LESMIS Standards with a Coding System Manual (2018). These frameworks provide an important example of the policy development and documentation required, laying the foundations for efficient, accurate, and accessible data usage for decision-making and resource allocation.

However, one of the primary challenges for LESMIS is the limited human resource development. The system's expansion and enhancement are hindered by a lack of sufficiently skilled personnel who are essential for system development, maintenance, and troubleshooting. The effectiveness of LESMIS also requires the continuous training and capacity building of staff involved in its operation.

DIGITAL LEARNING

Khang Panya Lao (KPY) is a comprehensive digital resource hub for Lao learners, featuring 378 courses and over 6,500 lessons spanning pre-primary to upper secondary and TVET levels. It has achieved substantial reach, with over 127,000 registered users and an estimated 300,000 active users across all provinces of Laos.

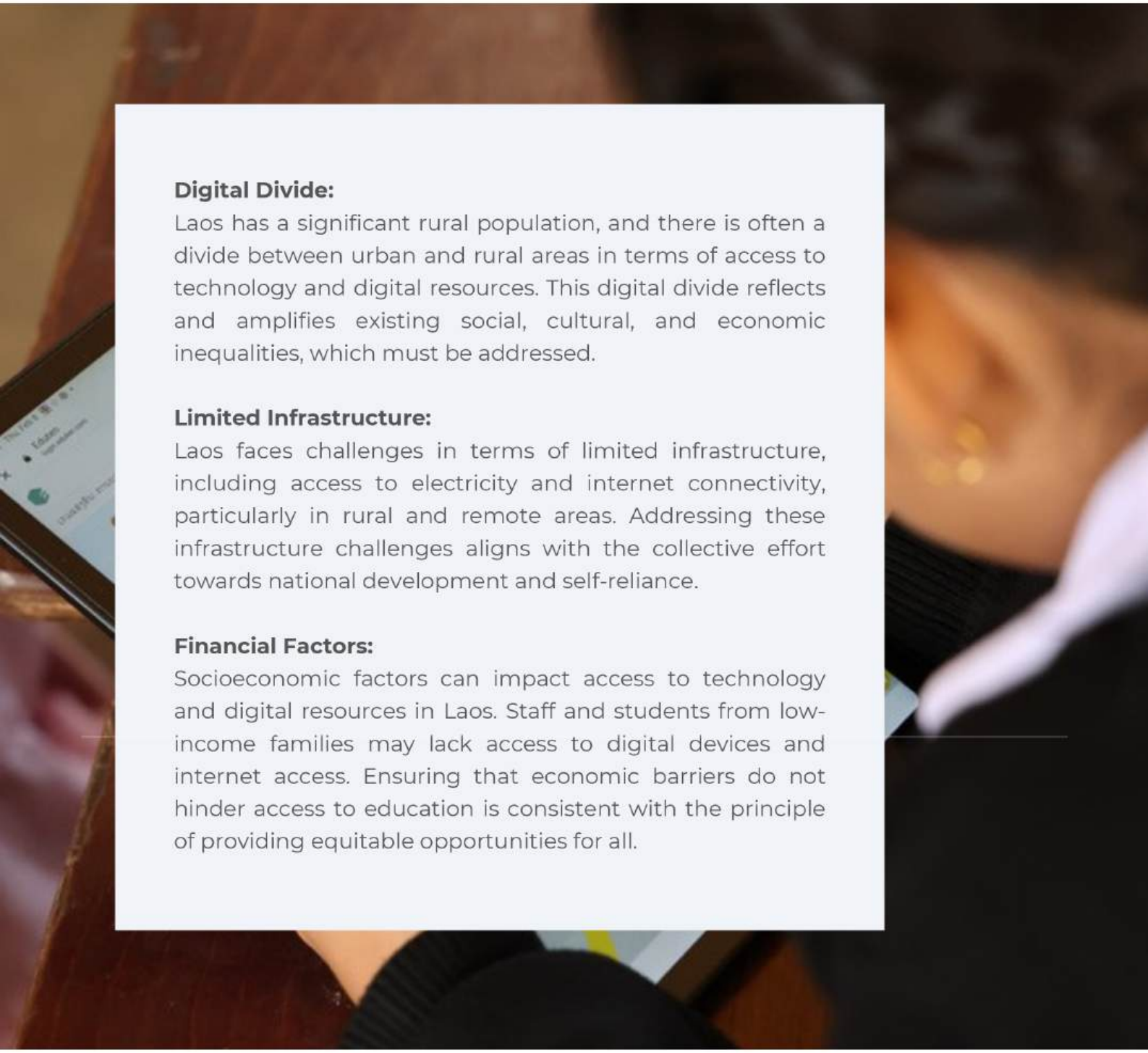
The platform is particularly popular among secondary students. More than 18,000 teachers have registered on KPY, benefitting from nationwide training programs (UNICEF, 2021). KPY has been instrumental in providing digital access to the entire curriculum. This platform is widely accessible, enabling students and educators to connect from any internet device. With a user-friendly interface and a diverse range of available resources, KPY has modernised education in Laos, making it more accessible, interactive, and practical. Importantly, it has been particularly beneficial during remote learning, ensuring continuity of education even in challenging circumstances.

However challenges faced during the rollout KPY have included limited or intermittent access to Internet services which can make reliable access a challenge. Also, financial barriers to paying for Internet data credits may pose a problem for some users of the platform. Inequitable access to digital devices with many communities relying on mobile phones as their primary method of access to the platform while laptops and desktop computers are in limited supply for many. With mixed levels of digital literacy amongst teachers and parents some require help registering their accounts and navigating KPY.

During the school closure period due to COVID-19, about 26% of Grade 5 students used online learning platforms. Among these, 40% reported using the Khang Panya Lao (KPL) platform specifically. However, surveys report a significant digital divide, as the usage rate among private school students was much higher at 57% compared to just 16.3% among public school students. While public rural students were about half as likely to use KPL as their urban counterparts. (Ministry of Education and Sports, 2023). These findings highlight the digital divide emerging in Laos and need for strategies to address these inequities when implementing digital platforms.

DIGITAL EQUITY

In the education sector, digital equity means ensuring that all staff and students have access to technology and digital resources, as well as the skills needed to effectively use them. In the context of Laos, digital equity in education is an important consideration due to several factors:



Digital Divide:
Laos has a significant rural population, and there is often a divide between urban and rural areas in terms of access to technology and digital resources. This digital divide reflects and amplifies existing social, cultural, and economic inequalities, which must be addressed.

Limited Infrastructure:
Laos faces challenges in terms of limited infrastructure, including access to electricity and internet connectivity, particularly in rural and remote areas. Addressing these infrastructure challenges aligns with the collective effort towards national development and self-reliance.

Financial Factors:
Socioeconomic factors can impact access to technology and digital resources in Laos. Staff and students from low-income families may lack access to digital devices and internet access. Ensuring that economic barriers do not hinder access to education is consistent with the principle of providing equitable opportunities for all.

Addressing digital equity in education in Laos requires an approach that responds to the unique circumstances of the country, including infrastructure limitations, socioeconomic factors, cultural diversity, and the need for digital literacy skills development. According to UNICEF's child-centred digital equity framework, effective digital education systems must consider:

Access

Ensuring quality, ubiquity, and affordability of meaningful access so that staff and students can connect to the internet when and where they need to. This includes infrastructure and appropriate digital devices.

Digital Literacy

Focusing on digital literacy as the cornerstone of digital inclusion policies. This includes collaboration skills, media literacy, critical evaluation of content, data literacy, and understanding children's rights online, such as data and privacy.

Digital Content

Ensuring the availability of high-quality, localised, and contextualised content that is appropriate for the cultural and linguistic needs of students in Laos.

Attitudes

Understanding the motivations of individual children to engage digitally and the perceptions and norms of important actors in their lives. Encouraging positive attitudes towards digital engagement aligns with fostering a progressive and cohesive society.

Outcomes

Including key performance indicators to measure how improvements in access, literacy, content, and engagement with technologies contribute to equality in outcomes for children.

04

10 YEAR DIGITAL STRATEGY FOR EDUCATION 2025 - 2035

4.1 VISION

VISION

Utilise digital technology to enhance education, ensuring inclusive access, equity, and lifelong learning opportunities for all.

MISSION

We Strive to Drive Education Transformation in Laos, Enabling Every Individual to Embrace Learning Throughout Their Lives via Inclusive Digital Solutions.

This 10-year strategic vision is based on the commitment to "Utilise digital technology to enhance education, ensuring inclusive access, equity, and lifelong learning opportunities for all." Our aim is to transform education in Laos through digital inclusion, encompassing formal, non-formal, and informal education. This vision focuses on ensuring equitable access and participation in the digital transformation of education.

The vision underscores the importance of flexibility and resilience in the education sector, recognising the need to draw on emerging technologies to respond to disruptions and evolving educational needs. It also emphasises the role of parental and community involvement, as well as collaboration with the private sector and development partners, in achieving sustainable digital transformation.

By fostering a culture of innovation within the education sector and keeping pace with evolving technologies, this strategy aims to create an adaptive, inclusive, and high-quality education system in Laos. This approach will enable every individual to embrace lifelong learning opportunities, supported by inclusive digital solutions.

4.2 STRATEGY KEY PRIORITY AREAS

THE STRATEGY PRIORITISES FOUR KEY AREAS:

1 DIGITAL ACCESS

Enhancing digital infrastructure to ensure reliable internet connectivity and access to digital devices across all regions, particularly in underserved areas.

2 DIGITAL SKILLS

Building digital competencies among educators, students, and education administrators to effectively utilise digital tools and platforms.

3 DIGITAL INFORMATION

Strengthening data management and utilisation through robust information systems to support informed decision-making and improve educational outcomes.

4 DIGITAL LEARNING

Leveraging digital platforms to support teaching and learning, providing high-quality localised content, and fostering continuous professional development for educators.

4.3 OVERARCHING GOAL

The overarching goal of this Digital Strategy for the Ministry of Education and Sports is to effectively integrate Information and Communication Technology (ICT) into the education system of Lao PDR. This integration aims to ensure equitable and sustainable access to digital tools and resources, establishing a strong foundation for the digital transformation of the education sector.

By systematically incorporating ICT, the strategy seeks to create a framework that aligns with the evolving needs of the education sector. This approach will enable the widespread adoption of digital technologies, prioritising tools and resources that directly enhance teaching effectiveness, student engagement, and learning outcomes.

Recognizing the unique challenges in Laos, such as limited digital access and varying levels of digital literacy, particularly in rural areas, this strategy aims to address these barriers through targeted infrastructure development and capacity building. The approach ensures that solutions are tailored to the specific needs of Laos, focusing on scalable and affordable technologies that can accommodate different levels of access to ICT infrastructure and resources.

The strategy highlights the need to establish sustainable digital transformation by focusing on institutional strengthening. This includes creating robust coordination and governance mechanisms to effectively implement education technology. By building strong institutions and fostering effective governance, the strategy ensures that digital transformation efforts are sustainable, well-coordinated, and capable of adapting to future challenges.

4.4 THEORY OF CHANGE

4.5 OUR STRATEGIC APPROACH

This strategy acknowledges the resource challenges faced by the education sector in delivering services equitably throughout Laos. The goal is to leverage existing infrastructure, investments, skills, and knowledge within Lao PDR. This approach emphasises increasing self-reliance and mitigating risks associated with funding cycles and competing demands for limited human resources.

The strategy aims to foster a culture of collective leadership and cooperation, establishing a clear vision and objectives for the future with shared goals for the education sector. Our approach empowers education administrators, educators, and school leaders to take ownership of the strategy, implementing it within their unique contexts. This flexibility allows for tailored solutions to achieve objectives while providing guidelines for decision-making processes.

While the strategic initiatives in this strategy may have modest objectives, they lay the crucial foundations for sustained digital transformation in the sector. The focus of the strategy is on establishing the framework, standards, and principles that will underpin future ICT investments, ensuring a sustainable approach to digital integration in education.

This strategic approach is based on the principles of equitable development and the collective good. By promoting self-reliance and community involvement, we aim to create a resilient education system that can adapt to changing needs and provide quality education for all. This strategy prioritises the use of local resources and expertise, ensuring that the benefits of digital transformation are distributed fairly across all regions and communities in Laos.

The goal is to leverage existing infrastructure, investments, skills and knowledge within Lao PDR.

4.5.1 DIGITAL ACCESS

Our digital access strategy draws upon existing capacities and aims to strengthen the current ICT infrastructure within the Ministry of Education and Sports. This strategy focuses on ensuring efficient, affordable, and reliable ICT Infrastructure across education administration and institutions. This is guided by the ICT infrastructure development strategies outlined by the Ministry of Communications and Technology, which focuses on improving and expanding on digital technology infrastructure and connectivity as part of the National Digital Economy Development Plan.

The strategy advocates a mobile-first approach, prioritising mobile technology as the primary platform for digital access. This includes efforts to increase mobile phone ownership among education officials, school leaders, and teachers, and establishing affordable mobile internet services. Such initiatives are aligned with recommendations, which advocates for adopting mobile phone usage in education to enhance learning and access (UNESCO, 2022).

The strategy for improving digital access in education includes a targeted and phased approach to increase electrification across all educational facilities, from district and provincial education offices to schools. Collaborating with the Ministry of Energy and Mines and Electricité du Laos, we aim to expand access to existing grid power, incorporating renewable energy solutions where appropriate. This approach is supported by the Asian Development Bank's insights into Lao electrification efforts (ADB, 2019) and reinforced by World Bank initiatives to improve the efficiency and capacity of the national electricity grid (World Bank, 2023).

While for communications services, the strategy highlights the needs for collaboration with the Ministry of Communications and Technology and the telecom operators to provide efficient, affordable, and reliable internet services to education administration and institutions throughout the sector, establishing standardised approaches to providing fixed and wireless internet connectivity that is scalable and sustainable.

The strategy to enhance Internet connectivity in educational institutions across Laos is informed by global best practices, such as those recommended by the Internet Society which highlights the need to ensure Internet access is both affordable and sustainable to improve educational quality (Internet Society, 2017). Aligned to the Broadband Commission's framework, we will implement a phased approach that begins with mapping current Internet services and setting clear standards for connectivity. This method ensures that all educational facilities, from urban centres to remote areas, receive reliable Internet based on their specific needs and capabilities, ensuring equitable access to digital resources (Broadband Commission, 2020).

Our approach to digital devices in the education sector is increasingly focused on mobile computing, prioritising the use of smartphones, tablets, and other portable devices. This mobile-first strategy acknowledges the versatility, user-friendliness, and robust design of these devices, making them ideal for educational purposes. While research from the Brookings Institution illustrates how mobile technology can significantly enhance the learning process by making educational content accessible from any location (West, 2015).

With this in mind, we advocate for a BYOD policy, recognising the benefits of leveraging personal devices owned by teachers, school leaders, and education officials. This strategy is particularly relevant in resource-poor settings like Laos, where providing devices for every individual may not be feasible. This approach not only reduces the cost of procuring digital devices but also leverages the familiarity that individuals have with their own devices, thereby reducing the learning curve associated with the adoption of new technology. While for those who do not own a suitable device, the initiatives will be developed to enable individuals to borrow, share or purchase one. This ensures that no one is left behind in the digital transformation due to lack of access to a digital device.

In terms of supporting infrastructure, provincial ICT Centres and other education facilities will be equipped to enable the BYOD approach, with wireless networks to encourage access, smart projectors designed for integration with various mobile devices, enabling content sharing and interaction in the classroom. This approach will be accompanied by guidelines to ensure the appropriate use of personal devices for educational purposes.

OUR PRIORITIES

To provide equitable digital access and enhance educational outcomes, our strategy focuses on four key areas: power, internet, mobile and provincial ICT centres. These four areas form the foundation of the digital access strategy for the education sector.

POWER

Reliable electricity is the foundation for any digital access initiative. Without a stable power supply, schools cannot effectively utilise ICT tools, which are essential for modern education.

Access to power throughout Laos has increased in the last decade, with electrification rates rising from 15% in 1995 to 90% in 2019. However, despite these advancements, electrification within the education sector remains uneven. Many rural schools still lack basic electrical infrastructure, and only an estimated 60% of schools in the 40 priority districts have electricity (World Bank, 2021).

Extending access to power and supporting schools in getting connected wherever the electrical grid is available are key priorities for the sector. While promoting appropriate electrification strategies, such as using renewable energy sources like solar panels, is important for rural and remote schools.

Reliable electricity in education offers numerous benefits, allowing for extended study hours with reliable lighting, options to use ICT tools such as laptops and projectors, improved staff retention and professional development, better school performance including higher attendance and test scores, and community benefits such as improved sanitation and public health (United Nations, 2014).

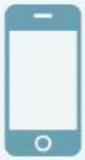
INTERNET

Internet connectivity is becoming increasingly important for accessing educational resources and providing scalable channels to communicate and collaborate. Addressing connectivity gaps is essential for providing equitable educational opportunities and supporting digital literacy throughout the sector.

Laos has extensive network coverage, with approximately 98% of the population having access to 2G, essential for basic communication services. About 90% of the population has access to 3G, supporting internet activities like video calls and browsing. Mobile coverage on the 4G/LTE networks is estimated to cover 80% of Laos. However despite this, only 68.9% of households have access to the internet, highlighting a significant connectivity gap (Lao Statistics Bureau, 2023).

Providing options for affordable and reliable options for internet access throughout the education sector is key. Access to reliable and affordable internet allows students, teachers and administrators to participate in digital learning, access education digital platforms, and communicate effectively.

While the affordability of internet services has improved, challenges remain. Currently the cost of 2 GB of mobile data in Laos is approximately 0.7% of the monthly Gross National Income (GNI) per capita (DataReportal, 2023). Although this meets the Broadband Commission's affordability target, the perceived expense remains significant given the low average monthly salary in Laos. Therefore it is important to work with telecom provides to increase access, improve affordability and identify options to remove financial barriers to use internet, both for individuals but also for institutions such as schools.



MOBILE

Mobile technology has become a key platform for digital access due to its widespread adoption, even in remote areas. This makes the use of mobile technology a practical and scalable solution for reaching students and educators.

Laos has seen a significant increase in mobile phone usage, with 85% of the population now using mobile devices (GSMA, 2023). Device ownership among school leaders and education officials is relatively high, with many already owning smartphones. Given the high ownership and usage rates of mobile phones, our strategy embraces a mobile-first approach. This is supported by the LSIS III report that indicates that 79.3% of women and 80.8% of men aged 15-49 own a mobile phone, and 84.3% of women and 84.5% of men in this age group have used a mobile phone in the last three months. (Lao Statistics Bureau, 2024). This reinforces the logic of leveraging existing mobile technology to provide equitable and affordable digital access throughout the education sector.

Mobile phones are more common and accessible than other digital devices, and they are generally cheaper than laptops or desktops, both in terms of initial cost and maintenance. Many educators and students are already familiar with mobile phones, reducing the learning curve for new technology adoption. While mobile phones are highly efficient in terms of power consumption and provide portability, flexible access both within the school environment and within the home.

Leveraging the established mobile network infrastructure in Laos will streamline the rollout of digital initiatives, taking advantage of the existing communications infrastructure provided and maintained by the private sector. However, it should be noted that smartphone ownership among teachers in rural and remote areas is still mixed, with individuals facing challenges in affordability and with some still using basic phones. Therefore efforts will be made to insure digital inclusivity, ensuring that those facing challenges in affordability with receive the necessary support. This may include options for distributing affordable or subsidised digital devices, working with the private sector to establish mechanisms that are affordable, scalable and sustainable for the education sector.

ICT CENTERS

Established in 2013, the provincial ICT Centres also known as Telecenters, where equipped with modern computer labs, high-speed internet connectivity, digital projectors and other necessary ICT equipment. Importantly, ICT centres were assigned dedicated staff who are qualified to provide technical support, training and assistance to manage these centres.

Each provincial ICT Center acts as an the digital hub, providing a location for educators and administrators, to attend training workshops on various topics, ranging from basic computer literacy to advanced digital skills, to support the ongoing professional development of educators and administrators.

These centres will continue to play an important role in bridging the digital divide. Provide access to digital resources to those who might not otherwise have it, including students, teachers, and community members in rural and remote areas. Offering public access to computers and the internet, these centres help to ensure that everyone has the opportunity to develop digital literacy skills.

Moving forward, our priority is to continue to maintain these ICT centres as key assets to provide sustainable digital access at the provincial level. Acting as the digital hub for providing ICT services, access to in-service training for educators and administrators, while also acting as vital resource in the community for inclusive digital access for community organisations to support life-long learning.

OUR APPROACH

To improve digital access, the strategy employs a number of approaches that will enable the more efficient procurement, maintenance, expansion, and support of ICT infrastructure in the education sector that is affordable, equitable and sustainable for the sector.

STANDARDS

Documenting minimum specifications for electrical, internet, and digital devices, such as laptops, mobile phones and computers will enable a standardised approach to purchasing while ensuring that there is a consistency in the equipment which is supplied for the sector.

INFRASTRUCTURE MAPPING

Compile and analyse information around the current electrical, telecommunications and other relevant ICT infrastructure with each province to allow for informed planning of digital access investments.

ASSET MANAGEMENT

Establishing a centralised record of all ICT assets and infrastructure currently deployed throughout the education sector is critical. This will enable a more efficient use of limited funds and equitable allocation of digital resources based priority.

PROCUREMENT

Quality assured procurement of ICT equipment based on agreed standards for ICT devices, education technology equipment, communications infrastructure and other ICT hardware.

CONTRACTING

Establish better efficiencies in the delivery of digital services such as Internet communications and other utilities such as electrical to ensure value for money and consistency against the agreed standards and guidelines for education facilities throughout the sector.

4.5.2 DIGITAL SKILLS

Recognising the need to provide ongoing training for educators and administrators around a range of topics, the strategy for digital skills will focus on how best to provide this training at scale. This strategy recognises that the cost involved in providing training throughout the education sector is substantial in context to the education budget and may be difficult to maintain without substantial financial assistance from development partners. Therefore, the strategy aims to leverage the existing systems in place, working the relevant institutions responsible and programs already underway, to better scale digital skills initiatives.

As a foundational step, this strategy builds upon ICT Competency Standards Framework (UNESCO, 2021), which outlines essential digital skills for teachers. We aim to extend these guidelines to include competencies for education administrators, ensuring consistent digital skills development across our educational workforce.

With these digital competencies established as standards, the digital skills strategy aims to use the learning management system to host training programs for administrators and educators with a range of courses and resources covering digital literacy and ICT skills, working in partnership with teacher training colleges and provincial ICT Centres to combine online modules with face-to-face workshops and mentoring.

Finally, with a focus on sustainability, we will establish digital onboarding processes for educators and administrators focused on using government ICT platforms including LESMIS, KPY and other platforms that include step-by-step guides, introductory webinars, and access to downloadable offline resources.

This Digital Skills strategy, aims to ensure there is equitable, and sustainable digital skills development throughout the sector that is based on standards, and can be scaled throughout Laos, drawing on existing platforms and technology, while also taking advantage of the facilities and institutions available in the sector.

OUR PRIORITIES

Recognising digital literacy and ICT skills as a foundational element for digital transformation in education sector, we highlight the following priorities as part of our ICT for educational strategy. These priorities aim to serve as overarching guidelines for the education sector and partners, to priortise their support for digital skills development over the long term, while providing a solid foundation that can be adapted and tailored to each sub-sector and adapted for the emerging needs of the education sector as a whole.

EDUCATORS' DIGITAL SKILLS

Increasing the digital literacy and ICT competencies of educators is the first priority for the ICT for Education Strategy, recognising teachers as critical for introducing digital technology and integrating ICT tools and platforms in the sector.

To support educators, we will continue work with Teacher Training Colleges (TTCs) and the Department of Teacher Education (DTE) to implement pre-service training programs based on the ICT Competency Standard for Teachers (ICT CST) to develop educators' digital skills and enhance their teaching pedagogy to use instructional technology where available.

In parallel, we will consider innovative and cost-effective approaches to providing in-service training for teachers already in the education system, drawing on the infrastructure available within the MoES and provincial ICT Centres. While working to better leverage mobile technology to take advantage of the tools that teachers already have access to, providing access to digital platforms and establishing communities of practise for teachers to support each other in digital adoption.

Focusing on the consistency of ICT knowledge and awareness amongst educators, a digital onboarding process will be established for core MoES digital platforms such as KPY and other endorsed digital platforms, ensuring that training is undertaken in a systematic way, recognised and accredited and tracked as part of teachers' continuous professional development. Awarding digital badges within the digital learning environment to motivate educators to engage in ongoing learning, to incentivise and provide a sustainable and scalable approach, that can be adapted and tailored for the emerging needs of the education system.

ADMINISTRATORS' DIGITAL SKILLS

Establishing a framework of ICT competencies required for education administrators and civil servants is an important foundational step in supporting the digital skills development of civil servants working to support the education sector administration. Drawing on the approach used to define the ICT competency framework for teachers, we will detail the digital skills and competencies required by administrators to efficiently manage and utilise digital technology and tools in their roles.

Adapting the ICT Competency Framework for administrators, will provide a clear pathway to defining the digital skills required administrators, establishing expectations around digital competencies while establishing a systematic approach for digital skills development that is consistent, sustainable and scalable throughout the sector.

Moving forward, a centralised process for digital onboarding and competency based training is necessary to ensure that administrators can effectively use endorsed MoES digital platforms. Establishing a digital onboarding process will ensure that as part of their orientation all staff undertake training on core government applications, such as office productivity tools and communication platforms. While MoES staff will be required to undertaken training on endorsed MoES platforms including KPY and LESMIS in addition to other applications relevant to their specific roles and responsibilities.

This approach works to ensure that there are step-by-step guides, introductory webinars, and downloadable offline resources made available to support the the consistent onboarding and training of staff throughout the sector, improving the utilisation of digital tools and platforms for communication, collaboration, and education system administration.

STUDENT DIGITAL SKILLS

The existing ICT curriculum in schools, universities, and vocational institutes in Laos is outdated, which limits the country's ability to produce enough graduates to support public and private sector needs.

Moving forward we will conduct a comprehensive review of the current curriculum across all educational levels and integrate updated ICT content into the curriculum with support. In parallel, we will develop ICT curricula at the university level to equip students with the skills necessary for the modern job market. While specialised ICT skillsets will also be incorporated into vocational institute programs to address specific industry needs.

To ensure the curriculum remains relevant and aligned with current technological trends and market requirements, we need work to better understand the demand for digital skillsets in various sectors. Therefore, collaboration with industry players will be important for designing and updating the curriculum to meet employer needs. .

Our priority is to equip students with the digital skills required for the modern workforce, enhancing their employability and ability to navigate the digital world. We aim to ensure the ICT curriculum is dynamic, industry-relevant, and inclusive, fostering a digitally skilled workforce that supports the economic development of Laos.

PARENTS AND COMMUNITY

The digital literacy and skills of parents, families, and the broader community are also considerations in our comprehensive digital literacy strategy.

While the digital skills of parents and community remain outside the direct responsibility of MoES, our strategy recognises the need to enhance digital literacy among parents and community members as an important pillar in digital adoption within the home.

MoES will work with civil society organisations and other relevant organisations to provide community-based digital literacy programs, to provide basic ICT skills training, focusing on practical applications such as using smartphones for communication, accessing online services, and participating in digital learning environments.

Government support for these programs my include the use of provincial ICT centres and schools as hubs for training and support, working to make increased used of the existing institutions and digital infrastructure at the sub-national level.

This aims to promote intergenerational learning, encouraging parents and children to learn digital skills together. This approach recognises the opportunity to build the digital capabilities of both groups and encourages a culture of lifelong learning.

By addressing the digital skills of parents, families, and the community, we aim to create a digitally literate community that can support and enhance the digital education of students, ensuring that digital skills and literacy extend beyond the classroom.

OUR APPROACH

The strategy to improve digital skills throughout the sector takes a measured approach to firstly understand the specific demands for ICT competencies, establishing a framework with the desired digital skills informed by employers and the private sector, developing competency based training materials to be delivered in a way that is consistent, scalable and sustainable and that is evaluated and revised based on emerging needs.

STANDARDS

Develop a framework of the specific digital skills and competencies that are expected of civil servants in the education sector, drawing upon the ICT competency standards framework for teachers. Detailing the systems that staff require training on for their employment.

MODULAR

Design training materials in a format that allows for flexibility and customisation based on the learner's current skill level and role-specific requirements. Each module should focus on a particular competency or set of related competencies.

DEMAND

Promote the importance and necessity of digital skills and literacy within the education sector to drive engagement and participation. Introducing incentives and recognition programs to motivate educators and staff to enhance their digital skills.

EVALUATION

Working to understand what is working for who, under what circumstances, is important to learn how to adapt, professional development and training programs, regularly revising and updating as part of continuous improvement.

4.5.3 DIGITAL LEARNING

The strategy for learning management systems is based on enhancing the existing platforms and building on the investments made during the recent pandemic. This strategy aims to leverage the significant progress made in creating a catalogue of digital learning materials aligned with the curriculum. It also takes into account the challenges encountered in user adoption and the barriers that could potentially restrict equitable access to the platform.

The enhancement of the learning management system will be primarily driven by a teacher-centric approach, acknowledging that educators are key in the delivery of educational services. (Al-Busaidi and Al-Shihi, 2012) This approach aims to target teachers as primary users of the platform, tailoring its design to ensure ease of use with features specifically designed to support their roles. In parallel, a strong emphasis will be placed on high-quality, localised content that aligns directly with the Laos curriculum, ensuring that learning resources are optimised for digital and offline distribution.

These improvements aim to reduce the pressures on the teachers, while enhancing student learning outcomes. This is particularly important in the context of Laos, where the challenges of large class sizes, multi-grade classes, and a shortage of qualified teachers are compounded by geographical and resource constraints.

In parallel, the platform will also be designed to facilitate continuous learning and development for teachers. This will involve incorporating features that allow for professional development, such as access to training materials, online communities to exchange best practices, and tools for collaboration with other educators. By supporting teachers in their professional growth, the platform can help to improve the quality of education delivery.

Finally it is important to establish to elevate the governance framework that guides the implementation of learning management systems. This committee guided by the senior leadership of MoES will include stakeholders such as curriculum specialists, teacher training colleges, and teachers who will use the platform will oversee the implementation at both district and school levels will make clear the roles and responsibilities for the administration, development, training and support for the Learning Management System (Bates, 2000).

OUR PRIORITIES

Our priorities digital learning are focused around building on the progress made to date, while being more deliberate and targeted in our approach. Working to better target out audience, working to be responsive to feedback from learners and design digital learning resources and platforms that are tailored to the unique requirements of Lao PDR.

TEACHER DRIVEN

In the classrooms of Laos, teachers are those most likely to have access to digital devices and the internet, best positioning them to utilise digital resources such as Khang Panya Lao (KPY) and other digital learning materials to support teaching and learning.

Our first priority recognises teachers as essential for digital adoption within the education system of Laos and refocuses our efforts towards supporting teachers in their roles, in delivering the curriculum and supporting students to achieve.

To design digital learning platforms for teachers in Laos, we first need to address their specific wants and needs, developing resources that support them in their roles as educators. With simple and easy access to the curriculum, teachers guides and support resources focused on enhanced learning pedagogy we can provide support that is valued by teachers and directly contributes to improved education quality.

This approach recognises the unique challenges teachers face in Laos, with large, multi-grade classes, and limited resources putting tremendous pressure on schools. Our approach aims to support teachers with digital tools that can enhance their teaching practise, to improve access to quality digital learning resources and connect teachers in communities as they integrate digital practices within their schools.

Establishing a clear focus on teachers allows us to provide better targeted professional development to address their specific needs, helping them improve their teaching practise while also becoming proficient in using digital technologies in a way that is systematic, scalable and sustainable.

DATA DRIVEN

Effective implementation of digital initiatives requires a data-driven approach that responds to the needs, wants, and interests of users. This demand-driven approach is powered by data, with learning management systems providing a wealth of valuable information and insights into user behaviour that can inform systems development.

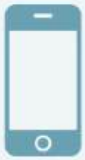
Moving forward, we will prioritise a data-driven approach to systems development. This involves tracking user engagement, collecting feedback, reviewing usage data, and using this information to guide the development of features, digital learning content and effective implementation.

We will establish a consistent approach to collecting, analysing and reporting the usage of learning management systems data, to provide quality information to inform governance of learning management systems. Specifically we will:

- Implement learning analytics tools that provide visibility into user interactions on our learning management systems.
- Collect detailed records of user behaviour, including the types of devices learners use, speed of internet access, session durations, and the popularity of resources and content.
- Establish a systematic approach for the analysis of usage data, feedback from users to identify trends, patterns for improvement.

It is important to ensure that those responsible for the governance of these initiatives are provided with quality information required to inform decisions on implementation, feature development, content creation, and overall system enhancements.

Providing learning analytics to the governance committee responsible for oversight these critical systems will provide them with insights needed to oversee the effective implementation and scaling of learning management systems. Ensuring limited resources are used effectively, that barriers to access are removed and that initiatives directly contribute to education sector strategic priorities.



MOBILE ENABLED

Given the widespread use of mobile devices throughout Laos, prioritising smartphones as the main platform for engaging learners, ensures that we are strategically targeting our users with the technology they already have access to.

This echos the advice from the World Bank, that the best technology is what's available what people know how to use and what they can afford. Therefore, we will prioritise mobile, to ensure our approach to implementing digital learning is accessible, equitable, effective, scalable and affordable.

Our strategy recognises the need for digital learning systems to be mobile optimised, with interfaces designed for small mobile phone screens, multimedia content compressed and formatted for mobile phone distribution, and user interactions on platforms designed for touch screens.

Developing digital learning content, optimised for mobile is key to our approach. This includes embedding interactive elements that work well with mobile phones, such as drag-and-drop activities, click-to-reveal features, and embedded quizzes that provide opportunities for formative assessment. These engaging tools encourage user interaction and enhance the learning experience.

Importantly, designing resources that are mobile-friendly, load quickly, and function well offline is essential, given the connectivity limitations in many areas of Laos. This ensures that learners in remote and underserved regions can access high-quality educational content without being hindered by intermittent internet access.

The best technology is what's available what people know how to use and what they can afford. (Trucano, World Bank)

BLENDED LEARNING

Taking the first step in digital transformation, the MoES has successfully curated and catalogued traditionally printed materials and textbooks, making them available online. Building on this success, there is an opportunity to make the content more engaging and effective for learners by adapting and digitising existing textbooks and other Lao language content for mobile distribution and interactivity.

Our priority is to transform the existing collection of approved curriculum resources into interactive multimedia formats. By incorporating multimedia elements like videos, animations, and audio, we can enhance the learning experience.

This blended learning approach aims to improve the quality of digital learning resources available in the Lao language, providing media that can be utilised across various digital learning applications, utilising low-tech solutions to ensure broad accessibility.

To reach a wider audience, we plan to use broadcast technologies such as television and radio. By distributing enhanced digital curriculum resources through these channels, we can ensure that high-quality educational content is accessible to learners regardless of their internet connectivity or access to digital devices.

Additionally, we aim to integrate mobile channels such as SMS and popular messaging apps like Facebook and WhatsApp. These platforms offer low-cost and low-bandwidth options for engaging learners and distributing educational content. Targeted SMS and messaging apps can be used to send reminders and quiz questions.

By focusing on these low-tech solutions, we can establish a blended learning environment that meets the diverse needs of learners across Laos. This approach not only enhances engagement and accessibility but also ensures that educational opportunities are equitable and far-reaching, supporting our principle of digital equity.

OUR APPROACH

The approach to enhancing learning management systems, specifically for the context of Laos PDR, is based on supporting foundations elements, carefully considering the content, the audience and working towards common standards.

STANDARDS

Ensure the learning management system meets WCAG accessibility guidelines, standards for usability, and security, with features that support integration with other educational tools such as LTI and SCORM.

OPEN EDUCATIONAL RESOURCES (OER)

Promote the use and development of OERs which are freely accessible and openly licensed. OERs are invaluable for teaching, learning, assessing, and research purposes, driving an open knowledge environment.

QUALITY CONTENT

Develop and curate high-quality digital educational resources that align with the curriculum, cater to diverse learning styles, and are accessible to all students. This includes interactive multimedia content, digital textbooks, learning modules, and quizs.

ADAPTIVE LEARNING

Integrate adaptive learning technologies within learning management systems to personalise the interface for each user. Adaptive technologies are designed to adjust the pace and content of learning based on individual performance & learning styles.

4.5.4 DIGITAL INFORMATION

While recognising that tremendous progress has been made in recent years in establishing a single interface into the information management system of the ministry through LESMIS, it is critical to understand that there is substantial work to be done to further streamline information management within the sector. This requires working in a coordinated way within the Ministry of Education and Sports, while working in partnership with other ministries within the government of Laos. Recognising the need for each of the departments to have stewardship of their own data and information is a key principle of the information management strategy (Ministry of Education and Sports, 2018). While empowering individuals to manage their own data creates a sense of ownership and responsibility, which can further contribute to improving data quality.

This strategy focuses on promoting the interoperability and integration of information systems and databases, while encouraging the adoption of standardised file formats, with the development of standard application programming interfaces that allow for the exchange of information and data securely (Beyond Essential Systems, 2020). Importantly, this strategy focuses on developing and upgrading systems, which adhere to a user-friendly design that will enable ease of operations by those with low levels of digital literacy, with applications designed to operate wherever possible through a mobile device interface, the most common digital device currently available.

Finally, the strategy prioritises the need to 'close the loop' when it comes to data collection, ensuring that information which is collected from schools once processed, cleaned and verified is then available to school leaders to have visibility of how their school is performing in context with other schools in the district, province or nationally.

It is important to recognise that the work of data and information management is an ongoing responsibility for the education sector to fund and continually improve its systems processes and strive for quality information to be made available for evidence-based decision-making. Considering the investments made in data collection, analysis and reporting by many individuals throughout the sector, quality information should be considered a valuable shared resource and made widely available.

OUR PRIORITIES

The Ministry of Education and Sports (MoES) has made significant strides in establishing a single interface through the Lao Education and Sports Management Information System (LESMIS). The focus now shifts towards further integration, enhanced security, establishing standards for interoperability, and promoting data exchange.

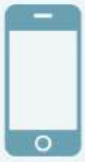
LESMIS has been instrumental in consolidating data from various sources, including the Personnel Management Information System (PMIS), Technical and Vocational Education and Training (TVET), Lao University Management System (LUMS), Teacher Training College/Teacher Education Management Information System (TTC/TEMIS) systems and others, positioning the LESMIS database as a central data warehouse.

However, substantial work remains to streamline information management within the education sector, which must be achieved in a coordinated manner within the MoES and in partnership with other ministries within the Government of Laos.

DATACENTERS

The most pressing priority is to progress the migration of information systems into a single National Data Center. **Migrating the assorted information systems throughout the MoES into a single data centre is the first step towards integration and consolidation of databases throughout the education sector.** This enhances the efficiency of data management processes, reducing redundancy and streamlining data handling, allows for uniform implementation of security measures, and ensures that systems adhere to data protection guidelines.

Importantly, promoting a single data management reduces costs associated with maintaining multiple, isolated database and web servers, enabling significant cost savings. Finally, moving the various databases and software platforms into a single data centre provides the foundations for data exchange and interoperability with the development of application programming interfaces.



MOBILE ENABLED

As outlined in the digital access component of the strategy, we recognise the widespread use of mobile devices throughout education sector administration, therefore the development of information systems optimised for mobile phone interfaces is key, particularly for tools related to data collection, auditing, validation, and dissemination. A key advantage to optimising information systems for mobile, is the benefit of access to cameras, audio recording and GPS tagging, that can provide more precise quantitative data while also providing qualitative data such as photos to complement data analysis.

Our strategy prioritises the development of information systems optimised for mobile, that are easy to use and accessible to individuals with varying levels of digital literacy. By focusing our efforts on mobile devices, we aim to support access using the technology that staff already own and know how to use.

In practice, this means ensuring that information systems are designed with a responsive interface, that will be adaptable based on the screen size of the device. In addition, we will prioritise application development that is optimised for offline access, ensuring that digital platforms are resilient and robust in the face of intermittent or slow internet access.

In parallel, using SMS for data collection and communication will allow schools with limited internet access to report key metrics via text messages. While use of tools such as RapidPRO can allow for integration with chatbots and leveraging popular messaging apps like Facebook, WhatsApp, and Viber for communication, data collection, and providing information to educators, students, and parents will enhance the use of existing technologies.

INTEGRATED

The strategy aims to review and update existing policies and standards to accommodate changes required for systems integration, including developing information standards, software standards, and data standards. Developing comprehensive standards will ensure consistency, interoperability, and quality across all systems. These standards will guide the collection, processing, and dissemination of information, ensuring that data is reliable, accurate, and useful for decision-making at all levels.

Working to prevent further fragmentation within the sector is critical to reduce the inefficiencies, duplicated efforts, and compatibility issues between different systems. By enforcing data and entity standards we can establish an integrated system that allows for data exchange.

Developing and implementing standards for APIs, processes is essential for effective data exchange and interoperability. APIs (Application Programming Interfaces) enable different systems to communicate and share data efficiently, making it easier to integrate various services and applications.

In parallel, as noted earlier migrating systems to be hosted in a single datacenter will also support this integration, providing a unified platform for managing and accessing data.

DEMAND DRIVEN

Historically, reporting and information systems has developed with a top-down approach, established to meet international reporting requirements and provide national level reporting to support policy development. Moving forward our aim is to be more responsive to the information demands of stakeholders throughout the education system and ensure that the information we provide is in the right format and at the right frequency.

Our priority is to support specific needs of school leaders, district and provincial administrators, developing information product that are actionable, timely, and presented in formats that support effective decision-making.

In parallel, it is to ensure that the development process is coordinated cooperatively between various departments and representatives from development partners. We will take a long-term and systematic approach towards systems development, which is logical, phased, well-considered, and works to address the information systems requirements in a systematic manner.

The group responsible for coordinating information systems development will leverage the usage information made available to better understand the demand for information.

It is important to recognise that data and information management is an ongoing responsibility for the education sector. Continuous improvement in systems and processes is necessary for quality information for evidence-based decision-making. Quality information, considering the investments made in data collection, analysis, and reporting, should be considered a valuable shared resource and made widely available.

OUR APPROACH

Recognizing LESMIS as a key foundational step, the approach focuses on expanding its capabilities to ensure it serves as a comprehensive interface for information management across the education sector, aligning with key policies and decrees relevant to education statistics in Laos.

STANDARDS

Data standards are required for data exchange between departments within MoES and other Ministries in Laos. Establishing data standards will help reduce duplication, minimise inefficiencies, and facilitate a unified approach to education data management. Importantly, it will underpin the integration of data from other departments and Ministries.

DOCUMENTATION

Detailed documentation of the existing information systems, user manuals, developer guides, information schemas, and data dictionaries are required to maintain the current systems. In the future, this documentation should be a mandatory requirement for new information systems developed, as a contract requirement of information system development throughout the sector.

OPEN SOURCE

Utilise open-source software frameworks for cost-effective and adaptable software options. Using open-source software helps to avoid vendor lock-in while ensuring software is adaptable to future requirements. This approach allows for flexibility and cost savings in the development and maintenance of information systems.

OPEN DATA

Implement open data policies to ensure that education data is freely available and accessible to the public, researchers, and policymakers. This will enable data-driven decision-making, support research within the education sector. Making data openly available, is an important approach in our strategy and will provide the foundations of a more effective education system.

4.5.5 SUPPLEMENTARY AREAS

To underpin the Key Strategic Areas, the strategy also outlines the following additional areas to provide a strong foundation to the strategy and its implementation.

POLICY & STANDARDS DEVELOPMENT

The strategy aims to review and update existing policies and standards to accommodate the changes brought by the integration of ICT including further development of digital competency standards, software standards, and infrastructure standards.

INCLUSION & ACCESSIBILITY

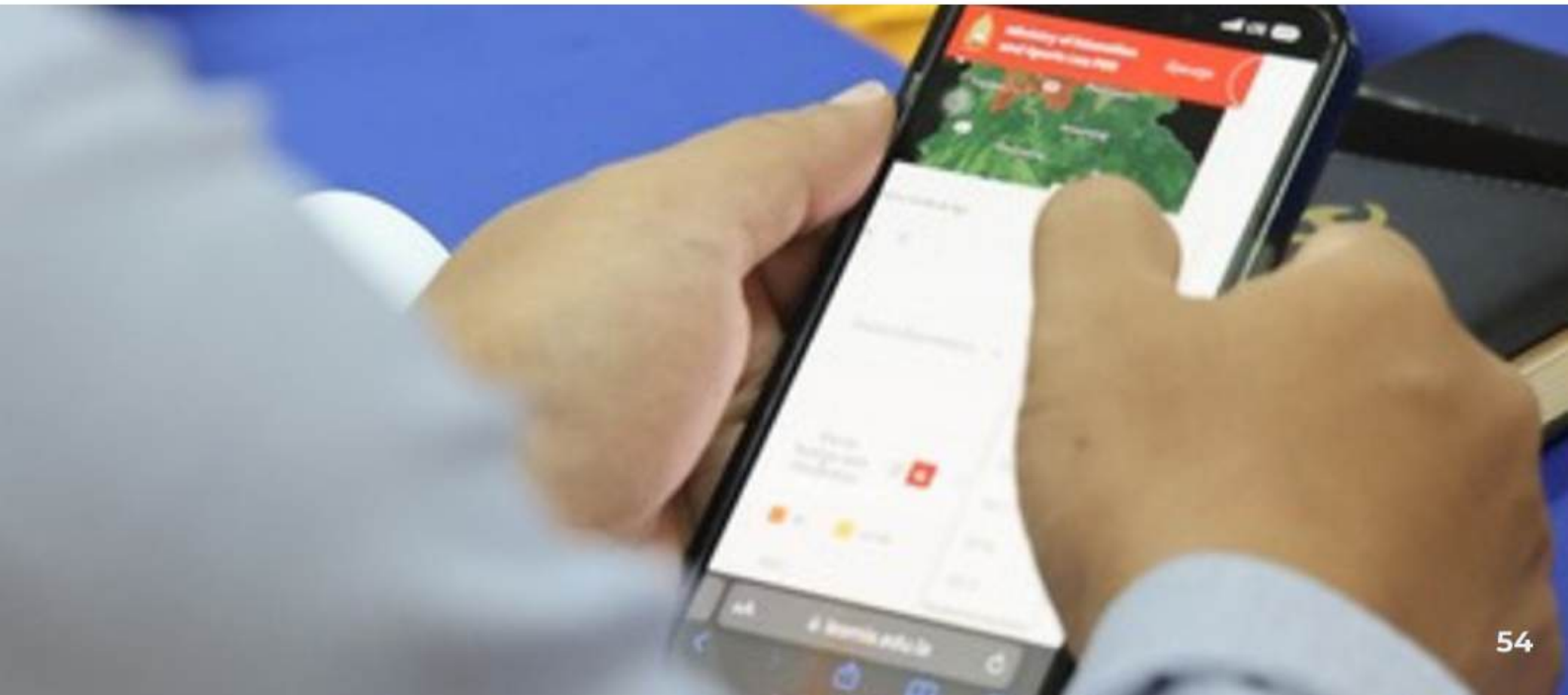
The strategy emphasises the need to make digital education accessible to all, including those with special education needs and those in remote areas. This involves the use of assistive technologies and the design of digital content and platforms that adhere to accessibility standards.

ONLINE SAFETY & CYBERSECURITY

Given the increasing use of digital tools in education, it is crucial to ensure the safety and security of learners and educators online. The strategy considers the provisions for cybersecurity measures and guidelines for safe and responsible use of digital platforms. The strategy further intends to integrate cyber safety education for children into school curricula (see Section 4.5.2 Students' Digital Skills) and to raise awareness among children on prevention and response to child online protection risks and online wellbeing.

PUBLIC-PRIVATE PARTNERSHIPS

Recognising the role of the private sector in advancing digital education, the strategy encourages partnerships with tech companies and other private entities. These partnerships can support various aspects of the plan, from infrastructure development to teacher training.



05 IMPLEMENTATION ARRANGEMENTS

IMPLEMENTATION ARRANGEMENTS

The 10-year Digital Education Strategy (2025-2035) for the Ministry of Education and Sports is designed to align with the overarching Digital Government Master Plan and provide guidance for the education sector. It aims to guide ICT investments, support planning, and prioritise initiatives that align with education sector priorities.

The ICT for Education Task Force within the Ministry of Education and Sports (MoES) has played a crucial role in the effective implementation of the strategy. Comprised of members of each of the departments, this task force has conducted a comprehensive review of the current state of ICT in education, identifying both challenges and opportunities for integration.

Importantly, the task force has engaged with stakeholders from the national, provincial, distinct and school level to gather input and feedback, fostering a collaborative approach to ICT integration in the education sector. Moving forward, it will be responsible for identifying and securing necessary funding and resources, promoting stakeholder collaboration, and ensuring that all initiatives are aligned with broader national digital transformation goals.

To ensure the successful implementation of the strategy within the broader Digital Government Implementation Roadmap, the Ministry of Education and Sports (MoES) will work closely with the Digital Government Transformation Agency (DGTA). The DGTA will lead the coordination efforts, ensuring that the strategic initiatives in the education sector align with the national digital transformation goals.

The MoES will coordinate with the broader digital government initiatives, leveraging the DGTA's expertise and resources. The National Committee on Digital Transformation, including representatives from the MoES, will help to address challenges specific to the education sector and ensure that the ICT initiatives within MoES are harmonised with the national strategy.

For implementation the MoES will consider engaging with a wide range of technology providers including software developers, hardware manufacturers, and digital content providers. These companies can contribute to the development of the KPY platform and other digital learning tools, provide equipment for schools, or offer their platforms and services at discounted rates or for free. The MoES will also explore collaborations with non-profit organisations and foundations that focus on education or technology. These organisations can provide valuable expertise, resources, and targeted funding support for the implementation of the strategy.

Engagement with telecommunication companies such as Unitel, ETL, Lao Telecom and others can provide opportunities for collaboration in improving internet connectivity in schools across the country. Telecommunication companies could offer valuable technical expertise and infrastructure support to help achieve the goals of the strategy. These engagements should focus on negotiations for more affordable internet services for schools, zero-rating of educational content, potential partnerships in digital literacy programs, and collaboration in the development and roll-out of digital learning platforms.

Other engagement with state owned enterprises might also prove beneficial in enhancing the digital education landscape. For instance, collaborating with Electricite Du Laos, the state-owned electric company, can contribute to improving the power supply infrastructure necessary for ICT equipment in schools. This partnership might involve exploring options for more reliable and where appropriate, solar-powered energy solutions in remote areas, thereby ensuring uninterrupted digital education services.

In addition, the MoES ICT Task Force will manage the private-public partnerships. This team would be responsible for identifying potential partners, negotiating agreements, coordinating collaborative activities, and monitoring the outcomes of the partnerships.

Finally, the MoES should ensure that all partnerships align with the strategic objectives of the strategy and adhere to the principles of transparency, accountability, and mutual benefit. This includes setting clear expectations, defining roles and responsibilities, and establishing mechanisms for monitoring and evaluation.

OUR APPROACH

STRONG LEADERSHIP

The success of the strategy's implementation rests heavily on strong leadership from the MoES. We need to possess a clear vision of the desired outcomes, be able to communicate this vision effectively to all stakeholders, and maintain steadfast commitment to the strategy objectives.

CHANGE MANAGEMENT

Implementing the strategy will bring about significant changes in the way the education sector operates. It's crucial to manage these changes effectively, ensuring that all stakeholders understand the reasons behind the changes, the benefits they will bring, and their roles in the process.

HUMAN RESOURCING

Implementation hinges on technical staff at both the district and school levels. These staff are key for the deployment, maintenance, and use of digital tools and systems, therefore we will ensure sustainable staffing implementation.

INFRASTRUCTURE

The strategy's goals cannot be achieved without the necessary ICT infrastructure. This includes not only physical infrastructure, such as computers and internet connectivity, but also software systems for managing data and delivering educational content using hosted digital infrastructure.

PARTNERSHIPS

The MoES cannot implement the strategy alone. It will require partnerships with other government agencies, private sector companies, non-governmental organisations, and international donors. These partners can provide financial resources, technical expertise, and other forms of support.

MONITORING & EVALUATION

To ensure that the strategy is achieving its desired outcomes, it will be necessary to monitor progress and evaluate results. This will involve the collection and analysis of data on a variety of indicators, such as student performance, teacher skills, and system efficiency

06

FINANCING ARRANGEMENTS

FINANCING ARRANGEMENTS

The Ministry of Education and Sports (MoES) will collaborate with the Ministry of Finance (MOF) and the Ministry of Technology and Communications (MTC) to support the Digital Education Strategy initiatives. While some costs are already integrated into MOES's recurrent budget, a coordinated funding approach is essential due to the involvement of other government departments.

PRIMARY FINANCING SOURCE

The main financing source for the strategy will be the MOES through the government's recurrent and development budgets. The recurrent budget will cover ongoing costs such as teacher salaries, school resourcing, and maintenance, with a smaller portion allocated for capital investments in infrastructure. For larger projects like new infrastructure, the MOES will seek additional funding through the development budget, including financial aid from international donors and organisations.

DIGITAL GOVERNMENT MASTER PLAN FINANCING ARRANGEMENTS

To enhance the efficiency and sustainability of digital government initiatives, the following financial management principles and funding mechanisms will be implemented (Digital Government Masterplan, 2024):

- **Financial Management Principles:** Ensuring proper allocation and utilisation of resources.
- **Government Budget:** Allocating specific budget lines within the national budget for digital transformation projects, including ICT in education.
- **Digital Government Fund:** Establishing a dedicated fund managed by the Digital Government Transformation Agency (DGTA) to pool resources for strategic initiatives.
- **Public-Private Partnerships (PPPs):** Encouraging partnerships with private sector entities to leverage additional funding and expertise.
- **Cost-Reduction Strategies:** Implementing strategies such as shared services and cloud-based solutions to reduce ICT infrastructure and maintenance costs.
- **Resource Sharing:** Promoting resource sharing within government ministries and departments to avoid duplication and ensure optimal utilisation of existing resources.

DEVELOPMENT PARTNERS

Recognising the economic pressures following the global pandemic, the Government of Laos will incorporate development partners to mobilise resources for activities that the government cannot fully fund. The MOES has received financial support from the European Union, with UNICEF being a significant contributor to technology-for-learning activities. UNICEF and its regional office in Bangkok have been instrumental in developing the Digital Strategy. The MOES will continue its dialogue with UNESCO, UNICEF, and other partners, including the World Bank and the Global Partnership for Education, to emphasise the importance and challenges of investing in ICT for education.

BILATERAL DONORS

The Education Sector benefits from several bilateral donors, including Australia, Japan, the European Union, the Republic of Korea, the United States, The People's Republic of China and others. The MOES will engage these and other potential donors to support the Strategy. A strategic approach will be developed based on donor' priorities, areas of interest, and contact methods. The MOES will provide prompt responses to interested donors.

For larger scale projects such as the construction of new infrastructure or widespread rehabilitation of classrooms, the MoES will seek additional funding through the development budget. This includes financial aid from international donors and organisations who have a vested interest in advancing educational initiatives.

The private sector will also play a significant role in financing the strategy. In addition to potential direct financial contributions, private companies could offer in-kind donations such as technical expertise, equipment, and services. For instance, tech companies could provide schools with discounted or donated digital devices, while telecom firms could supply affordable internet services.

Finally, the MoES will explore opportunities for cost-sharing or co-financing arrangements with other government agencies, non-governmental organisations, and international partners. This could involve integrating ICT components into other development projects or programs to maximise resource utilisation and financial efficiency.

Moving forward, it will be important for the MoES to develop a detailed costing and financing scheme that outlines the available financial resources as well as determines the financial requirements implementation of specific activities. As part of the implementation phase, a detailed financial analysis strategy is to bridge the funding gap, while leveraging supplementary resources.

The Ministry of Education and Sports (MoES) will establish various cooperation and collaboration arrangements with key stakeholders to ensure the successful implementation of the strategy. These arrangements will involve a range of partners, including telecommunication providers, the private sector, training institutions, donor partners, and international organisations.

1

TELECOMMUNICATION PROVIDERS

Telecommunication providers will be vital partners in this endeavour. The MoES will aim to negotiate partnership arrangements with these providers to ensure affordable and well-supported internet connections for all schools. In particular, the Ministry will leverage its commitment to long-term contracts to negotiate more favourable terms.

2

PRIVATE SECTOR ORGANISATIONS

Private sector organisations will also play a crucial role in the implementation of the strategy. Many of these organisations, such as solar power companies and computer retailers, will provide essential equipment and services. The MoES will aim to establish partnership agreements with these organisations, which will involve both parties working together to determine the best solutions for each school's needs.

3

CONTENT PROVIDERS

Content Providers may also be an important partner in the digital content creation and distribution process. These providers could include educational publishers, e-learning companies, and open educational resource (OER) platforms that can be drawn upon for the implementation of the Digtital Education strategy.

4

TRAINING INSTITUTIONS

Training institutions will be another key partner in the implementation of the strategy. These institutions will provide essential training for teachers and other staff members, ensuring they have the skills necessary to leverage the new ICT resources effectively.

5

DEVELOPMENT PARTNERS

Development partners will be critical to financing many of the projects outlined in the strategy. The MoES will engage with these partners as soon as possible to determine which projects they will support, starting from the first year of implementation.

PRIVATE PUBLIC PARTNERSHIPS

Principles and Standards

Private-public partnerships (PPPs) are guided by transparency, accountability, and mutual benefit. Partnerships must be open, transparent, and ensure accountability for all parties involved, providing value to both the private sector and the public education system. Private sector partners should adhere to ethical guidelines, industry standards, and applicable laws while aligning their contributions with the strategic objectives of the Education Sector Strategic Plan.

Roles and Responsibilities

The Ministry of Education and Sports (MoES) is responsible for managing these partnerships, ensuring effective utilisation of contributions, and monitoring performance. This includes evaluating outcomes and reporting progress. The partnerships should focus on sustainability, with private sector partners encouraged to support long-term initiatives through ongoing technical support, capacity building, or resource provision.

Framework for Management

The MoES will establish a management framework for PPPs, including mechanisms for partner selection, contract management, performance monitoring, and evaluation. Training and guidelines will be provided to MoES staff to effectively manage these partnerships.

Engagement with Various Sectors

To implement the strategy, the MoES will engage with technology providers, including software developers, hardware manufacturers, and digital content providers, to contribute to the development of the KPY platform and other digital learning tools. Collaborations with non-profit organisations and foundations focusing on education or technology will also be explored for their expertise and funding support.

Specific Partnerships

- **Telecommunication Service Providers:** Collaborations to improve internet connectivity in schools, including negotiations for affordable internet services, zero-rating of educational content, and digital literacy programs.
- **Electricité Du Laos:** Enhancing power supply infrastructure for ICT equipment in schools, exploring reliable and solar-powered energy solutions for remote areas.

Management and Coordination

The MoES ICT Task Force will manage PPPs, identifying potential partners, negotiating agreements, coordinating activities, and monitoring outcomes. All partnerships must align with strategic objectives and adhere to principles of transparency, accountability, and mutual benefit, with clear expectations, defined roles, and established monitoring and evaluation mechanisms.

DIGITAL GOVERNMENT

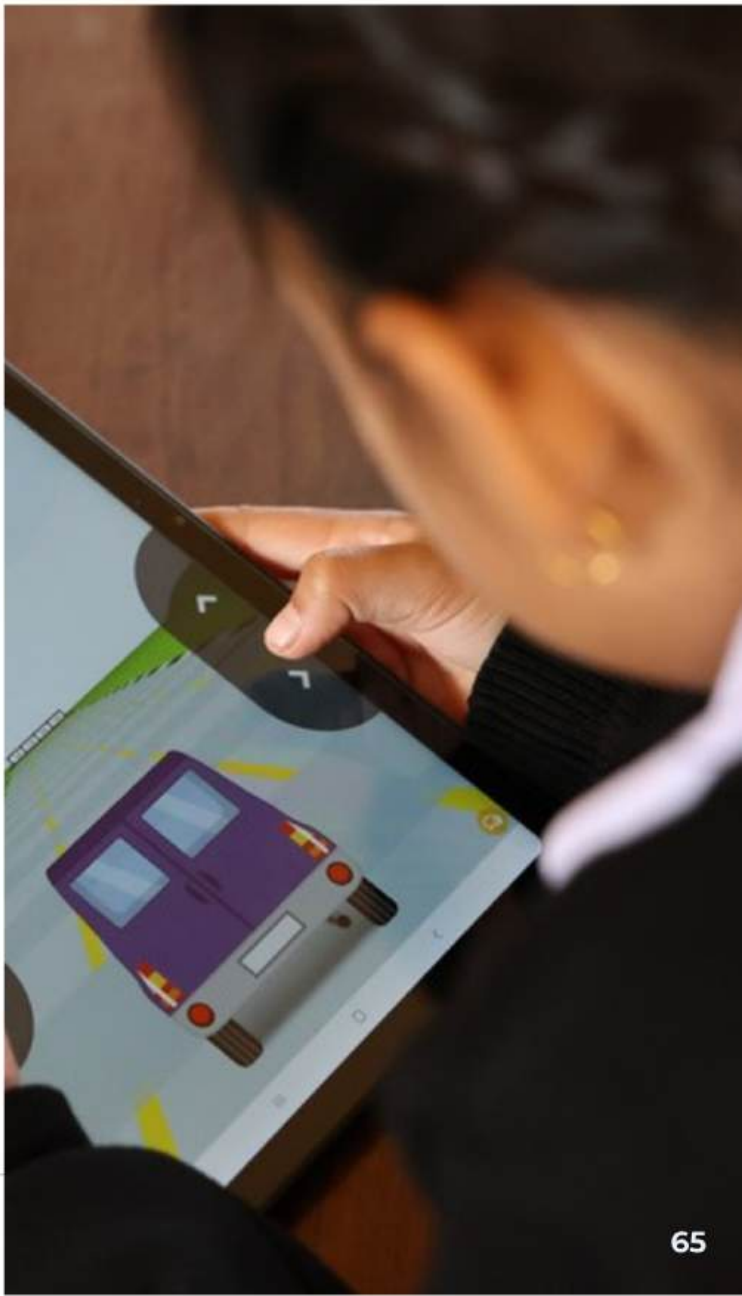
Structure and Governance
A dedicated unit within the Digital Government transformation agency oversees PPP projects, ensuring alignment with national digital strategies and policies. Clear governance structures manage agreements transparently and accountably, ensuring efficient use of resources.

Risk Sharing and Management
The PPP framework includes risk-sharing provisions to ensure both government and private sector stakeholders are invested in successful project implementation, with strategies to mitigate potential challenges.

Collaboration and Capacity
Building ongoing collaboration ensures projects align with technological advancements and best practices. This includes joint training programs to build capacity within government agencies and schools, and knowledge sharing between private sector partners and government institutions.

Monitoring and Evaluation
Regular monitoring and evaluation of PPP projects to ensure effectiveness. Progress is tracked against performance indicators, with necessary adjustments made to improve outcomes.

By coordinating with the agency the MoES can draw on the wider-reaching agreements with the private sector and enhance its own capacity to establish and expand private-public partnerships to achieve strategic objectives in the education sector.



07

MONITORING & EVALUATION

MONITORING AND EVALUATION

The Ministry of Education and Sports will establish a robust Monitoring and Evaluation (M&E) system to systematically track the progress and assess the effectiveness of the strategy's implementation. The M&E system will be guided by the principles of transparency, accountability, and continuous learning.

The M&E system will be built around a set of key performance indicators (KPIs) that align with the strategy's strategic objectives. These KPIs will include measures related to the provision of ICT infrastructure, the number of teachers trained in ICT use, the integration of ICT in teaching and learning, and the impact of ICT on student outcomes.

The M&E system will rely on a mix of data collection methods. For example, surveys will be used to gather feedback from teachers, students, and school administrators about their experiences with the new ICT tools and resources. Site visits and inspections will be conducted to assess the condition and utilization of the ICT infrastructure in schools. Data analytics will also be employed to track usage patterns and measure the impact of ICT on teaching and learning.

The M&E data will be analyzed and reported on a regular basis to inform decision-making and improve the implementation of the strategy. The reports will be shared with all key stakeholders, including the Ministry of Education and Sports, the ICT Center, development partners, and the public.

To ensure the credibility and objectivity of the M&E process, the Ministry of Education and Sports may consider involving an independent third party, such as a professional evaluation agency or a reputable research institution, in conducting the mid-term review and the final evaluation.

DIGITAL ACCESS

INDICATORS	DEFINITION	TYPE	FREQUENCY	DATA SOURCE
Number of schools with access to electricity	Count of schools connected to electrical grid or alternative energy sources	Quantitative	Annual	Ministry of Energy and Mines, Annual School Census
Type of internet access (3G, 4G, fixed, Wi-Fi, fibre-optic)	Classification of internet connectivity types available in schools	Quantitative	Annual	Annual School Census
Number of mobile phone subscriptions and internet usage	Count of mobile subscriptions and internet usage patterns	Quantitative	Annual	GSMA, LSIS Report
Affordability of data (cost relative to GNI per capita)	Comparison of data costs to gross national income per capita	Quantitative	Annual	Financial Analysis
Number of ICT standards developed and endorsed	Count of standards created and officially endorsed in the ICT sector	Quantitative	Annual	Ministry Records
Amount of ICT procurement	Total procurement value of ICT resources	Quantitative	Annual	Financial Systems
Number of ICT assets recorded	Count of ICT assets registered	Quantitative	Annual	ICT Asset Register
Number of laptops and desktops at school level	Count of laptops and desktops available in schools	Quantitative	Annual	Annual School Census

DIGITAL SKILLS

INDICATORS	DEFINITION	TYPE	FREQUENCY	DATA SOURCE
Number of men and women using computers	Count of individuals using computers, disaggregated by gender	Quantitative	Every 5 years	LSIS Report
Teachers' digital competency levels (basic, intermediate, advanced)	Assessment of teachers' digital competencies using the ICT Competency Standards for Teachers in Lao PDR	Quantitative	Annual	ICT Competency Standards for Teachers in Lao PDR
Digital skills of students (age 15-24)	Level of digital skills among students aged 15-24	Quantitative	Every 5 years	LSIS Report
Integration of ICT in curriculum	Degree to which ICT is integrated into the curriculum	Qualitative	Annual	Curriculum Review
Number of standards for digital skills and literacy	Count of standards developed and endorsed for digital skills and literacy	Quantitative	Annual	Ministry Records
Number of staff completing digital onboarding and training	Count of staff who have completed digital onboarding and training programs	Quantitative	Annual	Ministry Records

LEARNING MANAGEMENT SYSTEMS

INDICATORS	DEFINITION	TYPE	FREQUENCY	DATA SOURCE
Number of courses and lessons on LMS	Count of courses and lessons available on the Learning Management System (LMS)	Quantitative	Ongoing	LMS Analytics
Number of registered and active users on LMS	Count of registered and active users on the LMS	Quantitative	Ongoing	LMS Analytics
Device usage (type, screen size, internet connection)	Analysis of devices used to access the LMS, including type, screen size, and internet connection	Quantitative	Ongoing	LMS Analytics
User activity and engagement on LMS	Analysis of user activity and engagement on the LMS, including duration and type of interactions	Quantitative	Ongoing	LMS Analytics
WCAG compliance percentage	Level of compliance with Web Content Accessibility Guidelines (WCAG)	Quantitative	Annual	Accessibility Audits
Number of usability, security, and integration standards	Count of standards developed and endorsed for usability, security, and system integration	Quantitative	Annual	Ministry Records

DIGITAL INFORMATION SYSTEMS

INDICATORS	DEFINITION	TYPE	FREQUENCY	DATA SOURCE
Number of web applications migrated to data centre	Count of web applications migrated to the government data centre	Quantitative	Annual	Ministry Records
Number of standards for data management developed and endorsed	Count of standards developed and endorsed for data management	Quantitative	Annual	Ministry Records
Access to help documents and training videos	Availability and usage of help documents and training videos	Quantitative	Ongoing	LESMIS Analytics
Platform analytics (device usage, activity, feedback)	Analysis of device usage, user activity, and feedback on the platform	Quantitative	Ongoing	LESMIS Analytics
Number of APIs developed for system integration	Count of APIs developed to facilitate system integration	Quantitative	Annual	Development Records
Quantity of documentation developed (manuals, guides, schemas, data dictionaries)	Count of user manuals, developers guides, information schemas, and data dictionaries created	Quantitative	Annual	Development Records
Number of platforms using open source software	Count of platforms using open source software	Quantitative	Annual	Development Records
Compliance with data protection guidelines	Level of compliance with data protection guidelines	Quantitative	Annual	Data Protection Audits

08

RISK & MITIGATION

RISK & MITIGATION

The implementation of any strategy is not without its risks, and the ICT for Education strategy is no exception. Identifying potential risks early on and developing robust mitigation strategies is essential to ensure the successful execution and sustainability of the strategy. This section outlines the key risks associated with the strategy and the measures that will be taken to mitigate them. By proactively addressing these risks, we aim to enhance the resilience and effectiveness of our efforts in transforming education through digital initiatives.

DIGITAL ACCESS

RISK	DESCRIPTION	MITIGATION MEASURES
Insufficient electricity supply	Lack of reliable electricity to support ICT infrastructure	Collaborate with the Ministry of Energy and Mines to ensure schools have reliable electricity. Implement alternative energy sources such as solar power.
Poor internet connectivity	Inadequate internet connectivity, especially in rural areas	Work with telecommunications providers to improve infrastructure. Explore satellite and mobile internet solutions.
High cost of internet access	High costs of internet data impacting affordability for schools and students	Negotiate with ISPs for educational discounts. Implement zero-rating for educational content.
Regional disparities in digital access	Unequal access to ICT resources across different regions	Prioritise resource allocation to underserved areas. Monitor and address regional disparities.

DIGITAL SKILLS

RISK	DESCRIPTION	MITIGATION MEASURES
Lack of technical expertise	Projects require technical expertise in ICT	Invest in capacity building and training of local staff. Seek external expertise where necessary. Partner with universities or institutions for ongoing training.
Limited digital literacy among teachers	Teachers may lack necessary skills to use ICT effectively	Provide ongoing professional development and training programs. Utilise the ICT Competency Standard for Teachers in Lao PDR and UNESCO ICT Competency Standards Framework.
Resistance to change	Resistance from educators and administrators to adopt new technologies	Involve all stakeholders in the planning process. Communicate benefits clearly. Provide change management training.
Inconsistent training	Variation in the quality and frequency of training across regions	Standardise training programs. Monitor and evaluate training effectiveness.
Lack of human resources for ICT support	No positions at the district, village, and school levels for ICT support	Create dedicated IT support positions with clear terms of reference. Develop a pipeline of staff from colleges and senior secondary schools. Focus on sustainable human resource development.

LEARNING MANAGEMENT SYSTEMS

RISK	DESCRIPTION	MITIGATION MEASURES
Low user engagement	Teachers and students may not actively use the LMS	Conduct user needs assessments. Provide ongoing support and training.
Technical issues with the LMS	Technical difficulties and system downtimes affecting usage	Implement robust technical support and maintenance plans. Ensure regular system updates and backups.
Accessibility barriers	LMS may not be accessible to users with disabilities	Ensure LMS compliance with WCAG. Continuously improve accessibility features.
Insufficient digital resources	Lack of quality digital content aligned with the curriculum	Develop and curate high-quality, curriculum-aligned digital resources. Encourage teacher-created content.
Dependence on external parties	Dependence on vendors or service providers for LMS implementation	Establish strong contracts with clear expectations and penalties for non-delivery. Regularly review performance of external parties. Have contingency plans for critical services. Ensure agreements avoid lock-in clauses. Provide adequate training and documentation to build internal capacity. Obtain source code and documentation from external parties.

DIGITAL INFORMATION SYSTEMS

RISK	DESCRIPTION	MITIGATION MEASURES
Data security breaches	Risks of unauthorised access and data breaches	Implement strict security protocols and regular audits. Provide training on data security best practices.
Poor data quality	Inaccurate or incomplete data affecting decision-making	Establish data quality standards and regular checks. Provide training on data management.
Integration challenges	Difficulties in integrating various information systems	Develop and adhere to standardised APIs and integration protocols. Ensure thorough testing of integrations.
Lack of user training	Insufficient training for staff on using digital information systems	Offer comprehensive onboarding and continuous training programs. Provide user-friendly documentation and support.
Policy and regulatory barriers	Regulatory issues hindering the implementation of ICT strategies	Engage with policymakers to align ICT strategies with regulatory frameworks. Advocate for supportive policies and regulations.
Stakeholder coordination	Challenges in coordinating among various stakeholders	Establish clear communication channels and coordination mechanisms. Hold regular stakeholder meetings to ensure alignment.

GENERAL RISKS

RISK	DESCRIPTION	MITIGATION MEASURES
Coordination mechanism	Need for better coordination within MoES and with other government ministries and private sector	Establish a central body to coordinate digital initiatives. Ensure a clear process for scoping, establishing, endorsing, managing, and governing digital initiatives. Facilitate collaboration and coordination between different initiatives. Monitor financing provided through development partners.
Insufficient funding	Significant funding required for strategy implementation	Engage with potential donors and sponsors early. Align strategy with donors' strategic objectives. Regularly review and update funding strategy. Diversify funding sources. Ensure efficient use of available funds.
Lack of dedicated funding for ICT	No dedicated funding for ICT and digital investments within MoES	Ring-fence or quarantine 5% of the funding dedicated to ICT in schools. Ensure funds are available for schools to pay for ICT investments.
High recurrent costs	Limited funds for recurrent costs associated with digital investments	Manage recurrent costs to ensure affordability. Spend more upfront to reduce long-term recurrent costs.
Dependence on external parties	Lack of internal expertise necessitating reliance on external parties for support and financial backing	Establish strong contracts avoiding lock-in clauses. Ensure adequate training and documentation to build internal capacity. Obtain source code and other critical documentation. Develop a plan for timely handover of initiatives to MoES.

09

CONCLUSION

CONCLUSION

This 10-year strategic vision for ICT in the education sector in Laos integrates the foundational focus areas of digital access and infrastructure, digital skills, and the development of information and learning management systems. It emphasises the importance of parental involvement, community engagement, and private sector partnerships.

The strategy recognises that the successful implementation of ICT in education requires a robust and reliable infrastructure. This includes ensuring education facilities have access to electricity, reliable internet, and robust ICT equipment. By prioritising infrastructure development and addressing regional disparities, we aim to provide equitable access to digital services for students, educators and administrators.

Developing digital skills is critical for both teachers and students. The strategy prioritises targeted training programs and professional development opportunities to enhance digital literacy and competency. By leveraging frameworks like the Teachers ICT Competency Standard framework, we ensure that educators are well-equipped to integrate technology into their teaching practices effectively.

The ongoing support for the development of the Learning Management System (LMS) and improvements of Education Management Information System (EMIS) are key components of this strategy. The LMS will provide an equitable access to locally relevant educational content, while the EMIS will enhance data management, enabling informed decision-making and efficient resource allocation.

Addressing potential challenges related to funding, technical expertise, and stakeholder coordination, we aim to mitigate risks and ensure the effective implementation of the strategy. While continuous monitoring and evaluation will provide valuable insights, allowing us to make data-driven adjustments and improvements.

In conclusion, this strategic vision positions Laos to create an environment where ICT supports an inclusive, equitable, and innovative education system. By empowering learners, educators, and communities, fostering lifelong learning, and promoting socio-economic development, we can achieve our goal of transforming education in Laos through the effective use of digital technologies.

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