ENHANCED EMPLOYMENT SERVICE PLATFORM WITH MATCHING TOOL AND E-LEARNING MODULES (PHASE 1) – LAO PDR

PRE-FEASIBILITY AND PILOT CONCEPT REPORT
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Description	**Pre-Feasibility Report**

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ABBREVIATIONS

AASCTF	ASEAN Australia Smart Cities Trust Fund
ADB	Asian Development Bank
AI	Artificial Intelligence
ASCN	ASEAN Smart Cities Network
ASEAN	Association of Southeast Asian Nations
ASUS	ASEAN Sustainable Urbanization Strategy
CapED	Capacity Development for Education
COVID-19	Coronavirus disease
DFAT	Department of Foreign Affairs and Trade
DSDE	Department of Skills Development and Employment
GESI	Gender Equality and Social Inclusion
GGGI	Global Gender Gap Index
IEC	Information, Education and Communication
ILO	International Labor Organization
JC	Job Centre
LDN	Lao Disability Network
LMIS	Labor Market Information System
LUMS	Lao University Management System
ML	Machine Learning
MLSW	Ministry of Labor and Social Welfare
MOOC	Massive Online Open Course
MOU	Memorandum of Understanding
MTP	Modular Training Package
PCCI	Provincial Chamber of Commerce and Industries
PES	Public Employment Service
PIU	Project Implementation Unit
SC	Steering Committee
SCDESS	Strengthening Capacity to Develop the Employment System
SHEP	Strengthening Higher Education Project
SKU	Savannakhet University
SSEZ	Savan-Seno Special Economic Zone
SEZA	Special Economic Zones Authority
SSHEP	Second Strengthening Higher Education Project
STVET	Strengthening Technical and Vocational Education and Training
TESDA	Technical Education and Skills Development Authority
TOP	TESDA Online Program
TVET	Technical and Vocational Education and Training
TVEC	Technical and Vocational Education College

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EXECUTIVE SUMMARY

Lao PDR is currently experiencing one of the fastest rates of urbanization and industrialization in Asia. Kaysone Phomvihane is one of the fastest growing urban centers in Lao PDR. The government promoted and fast growing Savan-Seno Special Economic Zone (SSEZ) is aiding in the city's transformation to become a key strategic industrial hub. In Kaysone, international and local companies are generating increasing levels of demand for an appropriately skilled workforce, and educational and technical vocational institutions are training students to enter the job market. Despite the demand created and training available, a large surplus of job seekers exists and prospective employers still face challenges in attracting a skilled workforce.

While the Lao PDR government is constantly assessing and improving the labour market situation, there remains a need to mitigate the labour market supply and demand gap of rapidly growing industries. The Ministry of Labour and Social Welfare, Lao PDR has introduced a Labour Market Information System (LMIS) to create linkages between job seekers and employers. E-learning, which has been used to a limited extent within the Lao education sector, has the potential to increase the effectiveness of the existing LMIS by introducing relevant e-learning methods. This approach can prepare job seekers better for formal employment through digitization and can support to mitigate the skills supply-demand gap.

This ASEAN Smart Cities Trust Fund (AASCTF) Task Order – LAO: Enhanced Employment Service Platform with Matching Tool and E-Learning Modules (Phase1) – focused on investigating the possibility of introducing e-learning to build capacity of the Lao PDR government toward enhancing its own labour market information system and to strengthen distance learning capacity. The Task Order activities have been carried out with the objectives of: (i) conducting a needs assessment for an employment service platform and e-learning modules in Kaysone Phomvihane, and (ii) conceptualizing a potential pilot project as a Phase 2 AASCTF intervention.

During implementation of the Task Order, key stakeholders from both public and private sectors have been consulted and have supported the AASCTF Task Team to develop a thorough understanding of the current labour market supply and demand gaps and skills training needs, as well as the alignment of such with respect to current government priorities. The same group of key stakeholders have furthermore provided valuable feedback on the e-learning concepts proposed under this Phase 1 Task Order. The stakeholders consulted are categorized into four (4) groups: (i) Government Institutions (ii) Skills Providers (iii) Job Seekers and (iv) Employers. Engagement with representatives from across these diverse stakeholder groups is essential to ensuring e-learning based skills development approaches are properly designed and successfully rolled-out in the Phase 2 pilot project, and that they are, furthermore, ultimately sustained in the longer-term. The Office of the Mayor of Kaysone Phomvihane has been the organization anchoring this initiative and ensuring that all other key stakeholders are sufficiently engaged and coordinated with throughout the project period.

Review of the current LMIS indicated the Public Employment Service (PES) Website, developed by the ADB-supported Strengthening Capacity to Develop the Employment System (SCDESS) Project is currently managed by the Division of Employment Promotion. Launched in 2019, The Provincial Job Centre under the Division of Employment Promotion, is mandated to use the PES website to create linkages between job seekers and employers. The current PES website has drawbacks such as: (i) limited capacity to gather, process and disseminate labour market information, (ii) lack of human resources for maintenance, and (iii) non user-friendly interface. These drawbacks limit the capacity of the PES website to meet it's intended goal to provide employment service and job counselling, and to report labour market information. An e-learning platform, as an extension of the LMIS that is also linked with the PES website, can potentially revive the intended functionality of the PES.

The AASCTF Task Team conducted workshops and field missions to receive feedback from both the supply side (job seekers) and the demand side (private employers). The objective of these activities was to understand which factors underlie and contribute to the current skills supply and demand gap. Job seekers mentioned, in particular, two key contributing factors: (i) not receiving any job-related soft skills training at universities, and (ii) having a limited knowledge of job application processes and procedures, interview preparations, office environment settings, and communication skills. Employers mentioned two overriding, and quite similar, factors: (i) new employees lack basic workplace etiquettes – do's and don'ts in a professional environment, and (ii) new employees are somewhat equipped with technical skills but lack soft skills training.

Regarding e-learning modules, demo samples were developed by the Task Team and shared with job seekers and employers. Key feedback received included: (i) Savannakhet University (SKU) Students Affairs emphasized the importance of e-learning modules on soft skills of students and foreign languages (esp. English), (ii) Xaysombath Technical College emphasized that developing e-learning tools should engage local educational institutions to ensure sustainability, (iii) SKU students emphasized inputs from the industry should be considered to design practical e-learning tools that could address correct skillsets required from new employees, (iv) students and employers both mentioned that e-learning tools to be developed should provide a direct link to the PES website to help them apply for jobs posted on the website. (v) Savan Logistics (private employer) mentioned that a well-functioning e-learning platform linked with the PES website would reduce recruitment costs, but that the PES website user interface should be improved and promoted for better access, and (vi) Employers mentioned e-learning modules should be developed as a self-training tool or package that will encourage users to apply critical thinking by testing them and scoring the responses.

The concept of the Phase 2 pilot project (Part B of this report), is based on the findings presented in the pre-feasibility report (Part A of this report). The pre-feasibility study indicates that it is apparent that there is a labour market skill supply-demand gap in Lao PDR and specifically in Kaysone Phomvihane. When considering soft skills (e.g. office etiquette, communication skills, teamwork, time management, etc.), training of these are not provided by the education institutions. This creates problems on both ends, i.e. students lack confidence in applying for jobs, and employers cannot get the desired output from the newly hired employees and have to provide additional training. These findings were validated by the Task Team through interviews with students and employers.

The proposed Phase 2 pilot project focuses on developing a Smart Learning Platform (SLP) that will host different e-learning modules relevant to job seekers. The SLP will be linked to the PES website which is a part of the Lao PDR LMIS. The linkages are necessary as LIMS is used by private sector employers to post jobs. Therefore, job seekers are able to access those job postings and can use the linked SLP that will have relevant e-learning modules to prepare them better for the job application and onboarding process. Job seekers will be able to directly assess the SLP and its contents from their iOS and android based smartphones.

To initiate the pilot project, the formation of a "Skills Working Group" is suggested. The Skills Working Group can be an adapted version of the already formalized Steering Committee. The Skills Working Group will play a key role in bringing together the government (policy makers), educational institutions (skills providers) and private sector companies (employers). The Skills Working Group will play a supervisory role in ensuring the project is implemented accordingly, such that: (i) the private sector companies are able to directly communicate their need to the skills providers, and (ii) the content developed is relevant in the local context.

In addition to the Skills Working Group, the pilot project should also activate the Project Implementation Unit (PIU) which was formalized in the earlier stages of this pre-feasibility Phase 1 project. This, however, needs to be revisited ensuring that SKU host the PIU and offers collaboration with Savannakhet Technical and Vocational Education and Training (TVET) college and Xaysombath college in developing content that can be used by students of both SKU and the vocational schools.

The Phase 2 Task Team will be formed of international and local experts who would be responsible to receive guidance from the Skills Working Group and support the PIU to implement the activities of the pilot project. Prior to the development of the e-learning modules and the SLP, as well as to the linking of the SLP to the PES website, the Task Team will conduct detailed dialogues with both job seekers as well as private sector companies. The objective is to identify three (3) core industries (potentially electronics, logistics and automotive industries) which would be put in focus when developing e-learning content. Furthermore, the Task Team will define the sample size and create a database of test users for the pilot implementation phase.

The pilot project will target to deliver a functional SLP Version 1.0, with up to six (6) relevant e-learning modules (2D and 3D) that are appropriately adapted to local context. The SLP will be tested during the development phase. Upon full roll-out of the SLP in the pilot implementation phase there will be a limited amount of user testing to ensure the scalability and usability of the system can be properly assessed. In addition, the Task Team will also conduct a sustainability and scalability analysis that will illustrate how the developed system can be sustained on its own and can, furthermore, be potentially scaled-up across other provinces of Lao PDR, as well as in other countries across the ASEAN region.

The scope of the pilot project will have three stages: (i) Start-up of Pilot Project, (ii) Core Learning Platform Development, and (iii) Smart Learning Platform Implementation. The Executing Agency will be the Asian Development Bank, whereas the Implementing Agency will be Savannakhet University in collaboration with Savannakhet TVET college and Xaysombath college. Kaysone Phomvihane city and Savan-Seno Special Economic Zone will act as supporting agencies in the Phase 2 pilot project. The pilot project is proposed to have an implementation period of 14 months, with tentative commencement from May 2021.

PART A
PRE-FEASIBLITY REPORT

1. BACKGROUND

This ASEAN Australia Smart Cities Trust Fund (AASCTF) Task Order – LAO: Enhanced Employment Service Platform with Matching Tool and E-Learning Modules (Phase1) – focused on investigating the possibility of introducing e-learning to build capacity of the Lao PDR government toward enhancing its own labour market information system and to strengthen distance learning capacity. The Task Order activities have been carried out with the objectives of: (i) conducting a needs assessment for an employment service platform and e-learning modules in Kaysone Phomvihane, and (ii) conceptualizing a potential pilot project as a Phase 2 AASCTF intervention.

The Task Team, during Stage 1 (Start-up, Knowledge Capture and Analysis) and Stage 2 ("e-learning/ Gamification" Sample Development) of this Phase 1 Task Order, has conducted initial dialogues with various local stakeholders to receive, among other things, feedback (from students and job seekers) on e-learning as a job skills development tool, and to test and garner feedback on the developed sample e-learning concepts/modules,

As per the final Stage 3 (Buy-in Generation and Pilot Development) of this Phase 1 Task Order, the Task Team conducted dialogues with private sector companies to refine the need and approach for e-learning tools that best mitigate the skills supply-demand gap. Further, the Task Team investigated the role of key players and implementing agencies to support and guide the successful Phase 2 pilot project implementation. The overall goal of Stage 3 activities focused on seeking inputs from the private sector (employers) to design a pilot project that will test the viability and scalability of using e-learning for skills development.

After completion of all 3 stages, this report is the third and final deliverable from the consultant (Ramboll) Task Team to ADB as per AASCTF Task Order – LAO: Enhanced Employment Service Platform with Matching Tool and E-Learning Modules (Phase1). This report includes chapters that provide a holistic baseline assessment for introducing e-learning as an extension of the existing Lao PDR labour market information system (LMIS) in Kaysone Phomvihane. Furthermore, the report proposes a concept for a pilot project that will aim to: (i) further develop e-learning modules relevant to local context, (ii) link the developed modules with Lao's Public Employment Service (PES) website, and (iii) test an implementation model in collaboration with stakeholders from government, educational institutions, potential job seekers and private sector employers.

1.1 PROJECT OVERVIEW

Lao PDR is currently experiencing one of the fastest rates of urbanization and industrialization in Asia. With a strategy of economic diversification, the Lao government is promoting foreign investments to expand its industrial sector. Kaysone Phomvihame is the one of the fastest growing urban centers in Lao PDR. The fast growing Savan-Seno Special Economic Zone (SSEZ) is aiding to transform the city into a strategic industrial hub, a development promoted by the government. One of the key factors for success for the industries to flourish in Kaysone is access to an appropriately skilled workforce. While the Lao PDR government is constantly assessing and improving the labour market situation, there remains a need to better capacitate of local labour force to match the demand of the rapidly growing industrial sector.

In Kaysone, both international and local companies are generating increasing levels of demand for an appropriately skilled workforce, and higher education and technical vocational institutions that are training students to enter the job market. Despite the demand created and training available, a large surplus of job seekers exists and prospective employers still face challenges in attracting and retaining a skilled workforce. Employment focused training and guidance for students from universities and TVET institutions is hence an important factor to mitigate this existing skills gap.

The Ministry of Labour and Social Welfare of Lao PDR has, with support from the Asian Development Bank (ADB) and other development partners, introduced a Labour Market Information System (LMIS) which represents a platform to create linkages between job seekers and employers. E-learning which has been used to a limited extent within the Lao education sector, has the potential to increase the effectiveness of the existing LMIS by introducing relevant e-learning methods. This approach can prepare job seekers better for formal employment through digitization and can support to mitigate the skills supply-demand gap.

This Phase 1 Task Order, implemented between October 2020 to March 2021, has focused on assessment of the benefits for introducing e-learning approaches for bridging the existing labour market skills supply-demand gap. Further, this study is proposing a follow-up pilot project as a Phase 2 Task Order, developed on the basis of the baseline situation assessment. The proposed Phase 2 Task Order will pilot a suggested e-learning based soft skills training platform linked to the existing Lao PDR Public Employment Service (PES) website rolled out in collaboration with key players/stakeholders.

1.2 KEY ACTORS

The key stakeholders in this project are broken down into four (4) categories, as set out below:

- **Government** – Provincial and local level authorities who will provide policy and supervisory support in implementation of the pilot.
- **Skills Providers** – University and vocational schools who will provide access to the pool of students/job seekers to be trained using skills advancement solutions developed in the project.
- **Job Seekers** – Student union bodies and students representing the supply side of the labour market who will be primary beneficiaries of the e-learning based skills advancement solutions piloted.
- **Employers** – Industry entities and business associations representing the demand side of the labour market who will be secondary beneficiaries of accessing job seekers trained through e-learning based skills advancement solutions.

Engagement with representatives from across these diverse stakeholder groups is essential to ensuring e-learning based skills development approaches are properly designed and successfully rolled-out in the Phase 2 pilot project, and that they are, furthermore, ultimately sustained in the longer-term. Table 1 provides a snapshot of the key stakeholders in each of the four (4) stakeholder groups.

An official letter was sent from the Mayor's office of Kaysone Phomvihane city, during Stage 1 of this Phase 1 Task Order, regarding the formation of two committees that will each play a significant role in the Phase 2 pilot project design and implementation. Through the aforementioned letter, a Steering Committee (SC) and a Project Implementation Unit (PIU) have been formally appointed. This is a key milestone, as it signifies official buy-in from the Lao PDR government on the project, as well as intent to involve local level stakeholders to ensure policy support and implementation of project activities.

Table 1: Matrix of Stakeholders

Government	Skills Provider	Job Seekers	Potential Employers
Mayor's Office, Kaysone Pomvihane City	Savannakhet University (SKU)	Youth Union	Savan Logistics
City Office of Education and Sports	Xayasombath Technology College	Students of SKU	Miyamoto (Lao) Co.,
City Office of Labour and Social Welfare	Technical and Vocational Education College (TVEC)	Students of TVEC	Celestica Lao Co.
Office of Governor			Daehan
Provincial Dept of Labor and Social Welfare		Students of Xayasombath Technology College	Savanh Park Co.
Provincial Office of Industry and Commerce			
Provincial Department of Industry and Commerce			

Table 2: Members of the Steering Committee

SC Role	Name
President	Dr. Sengthong Vangkeomany, Mayor of Kaysone Phomvihane City
Vice President	Assoc. Prof. Dr.Sitha Khemmarath, Vice-President of Savannakhet University
Member	Mr. Bounkeuah Khotsambath, Director of Technical and Vocational College
Member	Mr. Souksavanh Xayasombath, Director of Xayasombath Technology College
Member	Ms. Phonxay Lattanavongxay, Head, Kaysone Phomvihane City Office of Education and Sports
Member	Mr. Khamtan Phetsomphou, Head, Kaysone Phomvihane City Office of Labour and Social Welfare
Member	Mr. Phanomkon Daralatsamy, Deputy Director Savan-Seno Special Economic Zone
Member	Mr.Khamsy Phetxayavong, Deputy Director, Savannakhet Province Chamber of Commerce
Member	Mr.Phoungeun Chanthasone Head, Office of Governor, Kaysone Phomvihane City

Box 1: Functions of the Steering Committee

- Provide guidance to the Task Team for project preparation and coordinate with all the organizations concerned in horizontal and vertical lines of administration relevant to the project.
- Provide feedback to PIU on the overall project implementation plan.
- Review progress reports on project activities, provide guidance to PIU in resolving issues arising during project implementation, and agree in principle to further report to the upper level of authority on overall project implementation.
- Monitor and evaluate the activities implemented under the project to ensure it is in accordance with the government's guidelines of democratic centralism – acceptable to all relevant stakeholders within the government.

Table 3: Members of the Project Implementation Committee

PIU Roles	Name
Director	Assoc.Prof. Dr.Sitha Khemmarath, Vice-President of Savannakhet University
Deputy Director	Mr.Thongsawath Liapvixainavang, President of Trade Union, Savannakhet University
Member	Mr.Khampheui Ackhavong, Head of Students Affaires Office, Savannakhet University
Member	Mr.Thavone Mounsamlouath, Secretary of Youth Association, Savannakhet University
Member	Miss. Paphan Bouttakhan, President of Women Federation, Savannakhet University
Member	Mr.Xayaphone Phimmasone Head of Academic Office, Savannakhet University
Member	Mr.Saythong Bouthchanthala, Head of Academics, Savannakhet Technical and Vocational, College
Member	Mr.Bounkham Insixiengmai, Head of Academics, Xaysombath Technology College
Member	Mr.Xaysana Thongmixai, Technical Representative of Kaisone Phomvihane City Office of Education and Sports
Member	Technical Representative of Savannakhet Province Department of Labor and Social Welfare
Member	Technical Representative of Savan-Seno Special Economic Zone
Member	Technical Representative of Savannakhet Province Chamber of Commerce
Member	Technical Representative of Kaysone Phomvihane City Office of Labour and Social Welfare

Box 2: Functions of the Project Implementation Committee

- Oversee all activities and coordinate/assume all external relations activities.
- Coordinate with the Task Team in implementing the project to assure successful achievement.
- Report on progress of the project activities to the Steering Committee.
- Coordinate and work hand-in-hand with all stakeholder organizations in implementing the project.

2. LESSONS LEARNT

This chapter focuses on capturing learnings from relevant previous project interventions undertaken to develop/improve Lao PDR's employment information system and higher education, as well as relevant projects from neighboring countries. The objective of reviewing previous projects is to identify what are the main lessons learnt and what are the remaining issues that should be considered when designing a pilot project to deploy e-learning tools in Kaysone.

Table 4: Matrix of Relevant Projects

Project 1	Strengthening Technical and Vocational Education and Training (STVET) Project
Duration	September 2011 - June 2016
Implementer	Ministry of Education and Sports, Lao PDR
Donor	ADB
Aim	Improve quality of-, and access to formal TVET in Laos, focusing on certificate & diploma programs.
Lessons Learnt	Modular Training Packages (MTPs) Certificate level III for 17 prioritized jobs developed, which needs a distribution mechanism to reach more target audience.
Remaining Issues to be addressed	MTPs are competency-based training modules, therefore they could be provided as E-learning modules for those students willing to learn the hard skills in 17 prioritized job categories.

Project 2	Strengthening Higher Education Project (SHEP)
Duration	December 2009 – June 2016
Implementer	Ministry of Education and Sports, Lao PDR
Donor	ADB
Aim	Improved economic competitiveness and increased employment opportunities of higher education graduates.
Lessons Learnt	Quality enhancement requires a more focused approach on curriculum related issues, with greater emphasis on e-learning and blended learning modalities. A diversified, multi-path approach to development of graduates' working skills and other 'soft' skills is needed.
Remaining Issues to be addressed	The e-learning pilot project platform can consider providing links for students to access available E-learning modules from the four universities'. Development of e-learning modules to enhance the students' soft skills has not been covered by this project and remains an area of intervention

Project 3	Strengthening Capacity to Develop the Employment System (SCDESS) project
Duration	March 2017 – May 2019
Implementer	Ministry of Labor and Social Welfare, Lao PDR
Aim	ADB
Scope	Enhance PES through building essential bridges between job seekers and employment opportunities. Establish a visible and reliable reference point for both job seekers and potential employers
Lessons Learnt	• Outreach activities (i.e. job fairs) increased both no. of job seekers as well as no. of vacancies. • Continued training needs to be ensured for Job Centres' (JCs) staff to sustain service delivery. • Understaffing and underfinancing impacts functioning of the PES website. • Business model for JCs and an online service delivery mechanism need to be developed. • Mechanism for coordination between private companies, educational institutions and provincial chamber of commerce was suggested to be developed. • Techniques of implementing labour market surveys have been transferred to JCs and should allow a better approach of the provincial/ local labour market. • To improve labour market information, additional staff are required who would be dedicated for disseminating information and not work on migration issues. • Users (job seekers and employers) have high hopes and expectations from the JCs and its website to provide them with quality and updated labour market information.
Remaining Issues to be addressed	Establishment of the Provincial Skills Council to coordinate private companies, SKU, TVEC, Special Economic Zones Authority (SEZA), Provincial Chamber of Commerce and Industries (PCCI) and Kaysone Phomvihane City Authority is absent and should be addressed. The proposed pilot's digital platform can consider promotion of usage of the PES website by employers and students so that the system is better utilized, and it can consider making the PES website more user friendly.

Project 4	Second Strengthening Higher Education Project (SSHEP)
Duration	January 2017 – December 2023
Implementer	Ministry of Education and Sports, Lao PDR
Donor	ADB
Aim	Transformation of education delivery systems, to build the foundations for research and to inculcate necessary skills as well as knowledge in the HE system's graduates in order to raise competitiveness and regional engagement in relation to the AEC
Lessons Learnt	• Graduate tracer studies and employer surveys provided evidence for curriculum and regulatory reforms. • Strategy Paper on University-Industry-Private Sector Partnership provided action plan for collaboration among 4 universities and the local industry. • Development of the Lao University Management System (LUMS) in particular the E-learning platform which could be linked to the project digital tools. • Development of blended learning materials for E-learning platform.
Remaining Issues to be addressed	Integrate the results and findings of the SKU tracer study and Employer study to identify the topics for the development of the project digital tools. The project E-learning platform could provide links to the 4 universities' E-learning materials. Mapping of the SKU University-Industry-Private Sector Action Plan and identify possible project's entry point i.e. assist and involve in organizing job fairs to advocate the utilization of the digital tools.

Project 5	Digitalizing TVET in the Philippines - TESDA Online Program (TOP)
Duration	Ongoing
Implementer	Technical Education and Skills Development Authority (TESDA)
Donor	ADB
Aim	Open educational resource that aims to make technical education accessible to more Filipino citizens, through the use of information and communication technology.
Lessons Learnt	Modules hosted online can be difficult to access due to slow internet connection. Funding source for sustainability is a challenge to address.
Remaining Issues to be addressed	An offline versions of the e-learning platform using low cost hardware has not been developed yet that could make access much easier.

Project 6	Using artificial intelligence for skills supply, demand, and training analysis in Singapore
Duration	Ongoing
Implementer	JobKred
Donor	Not applicable
Aim	Career guidance and profiling platforms using big data and artificial intelligence powered solutions to identify employer demands and needs.
Lessons Learnt	The platform provides real-time and predictive guidance on the candidate's skills gaps in relation to the job market's skills demand.
Remaining Issues to be addressed	Explore/study the platform that is being used to do intelligent skill-gap analysis to predict skills requirements and skills assessment analysis that provides actionable data and can recommend online learning courses to build job relevant skills.

Key takeaways from relevant projects reviewed:

- STVET Project indicated that potential future scale-up of e-learning platforms will benefit from including digitized MTPs Certificate level III for 17 prioritized job categories developed under the STVET project. These TVET curricula if given a proper distribution mechanism can better reach the target audience (job seekers).
- SCDESS Project indicated that a coordination mechanism between relevant government organizations, private sector employers and educational institutions is needed. The coordination of policy, skills demand and service providers are key in achieving the key result of reducing skills supply-demand gap.
- SSHEP indicated that e-learning, if emphasised, can create an improved learning experience for graduates (job seekers). Further to this, the project indicated providing soft skills training for graduates, besides work-related skills training, will create an overall inclusive learning approach for job seekers.
- Digitalizing TVET in the Philippines - TOP indicated that only creating online e-learning modules can limit the project's scope in reaching all beneficiaries. Offline e-learning modules should be developed as well, keeping in mind the internet connectivity issues that are prevalent in South East Asian countries.
- Using artificial intelligence for skills supply, demand, and training analysis in Singapore indicated e-learning platforms when linked with labour market information system can provide useful data to potential data analysis on the skills supply-demand gap. This information can be used in future to develop a greater number of targeted e-learning modules.

Source: ADB - Strengthening Technical and Vocational Education and Training Project in Lao PDR

3. LABOR MARKET INFORMATION SYSTEM

This chapter is an overview of the Lao PDR Labour Market Information System (LMIS). The purpose of this chapter is to understand the background and the present status of the system, given that the proposed e-learning tools implemented in the Phase 2 pilot project would be an extension of this current system.

3.1 LMIS OVERVIEW

The Ministry of Labour and Social Welfare (MLSW) has two online platforms acting as the matching tools:

- https://lmi.gov.la/ (or commonly called the LMIS) developed by MLSW and currently managed by the Division of Labour Market Information. The LMIS, however, is linked with the National Social Security Fund and one of its functions is to register the unemployed that are covered by the National Social Security Fund (NSSF) as part of the government's active labour market policies.
- https://www.pes.molsw.gov.la (or commonly called the PES) developed by the ADB-supported SCDESS Project and currently managed by the Division of Employment Promotion. The PES website is for general users – job seekers and companies.

Both divisions are under the Department of Skill Development and Employment (DSDE) of the MLSW. Launched around the same time in 2019, both platforms serve similar purposes – providing and disseminating labour market information of registered job seekers and vacancies. The Provincial Job Centre of Provincial Labor and Social Welfare (PLSW) is mandated to use both online platforms to register: (i) job seekers, (ii) companies (to enable them to post vacancies), and (iii) the unemployed with NSSF. Talks have been ongoing to merge the functions on vacancies between the two platforms. The DSDE in 2020 entered into a Memorandum of Understanding (MOU) with a private online employment service provider to share labour market information through https://lmi.gov.la.

3.2 LMIS PRESENT STATUS

According to the interviews with staff of the Provincial Job Centre and City Office of Labor and Social Welfare in December 2020 during the undertaking of this pre-feasibility study, some of the drawbacks of the LMIS (especially the PES) include:

- Limited capacity and instruments (or mandates) to effectively and regularly collect, process, analyze and disseminate relevant and reliable labour market information.
- User-unfriendly functionality for statistical processing and reporting.
- Lack of available human resources to maintain PES.
- Inability of PES to combine information from various sources.
- Inadequate resources for statistical programmes and other activities aimed at generating labour market information.
- Lack of coordination efforts (e.g. JC & SKU ICT Centre) to share information and maintain the system.

Table 5: Comparison between LMIS and PES

LMI.GOV.LA[1]	PES.MOLSW.GOV.LA[2]
Employment Services	**Employment Services**
• Register the unemployed covered by SSO and employers • Register companies to post vacancies	• Register and advise jobseekers • Do advocacy with employers • Obtain vacancies
Skills Development	**Job and Career Counseling**
• Register trainees or re-trainees • Register students to enter the labor market	• Support matching of jobs and job seekers • Meet the needs of individual categories of job seekers • Plan and manage individual employment and training measures
Career Guidance	
• Assess basic training and skill needs	
Report Labour Market Information	**Report Labour Market Information**
• Labor market analyzes • Labor market trends • Labor market indicators	• Collect and disseminate labour market information • Find training funds

Table 6: Statistics available from LMIS and PES (May 2019-28 Jan 2021

Description	LMI.GOV.LA	PES.MOLSW.GOV.LA
Cumulated companies registered	56	920
Cumulated vacancies registered	2,535	20,205
Cumulated members registered	4,551	1,541*
Cumulated the unemployed on NSSF	3,738	n/a

Sources: www.lmi.gov.la, www.pes.molsw.gov.la, accessed on 28 January 2021. Notes: (*) is the number of the jobseekers (members or subscribers) posting their resumes online and the PES subscribers without posting their resumes could be more.

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1 See https://lmi.gov.la/index.php
2 According to the Employment Services Manual for Job Centres: Services to Jobseekers and Employers (January 2019), ADB-project "Strengthening Capacity to Develop the Employment Service System in Lao PDR..

4. SKILLS SUPPLY-DEMAND GAP

This chapter provides an overview into the Savannakhet labour market. Further, this chapter analyzes in detail the status of both the labour demand and the labour supply in Savannakhet, as well as outlines key feedback from job seekers and private employers surveyed during the AASCTF field missions.

4.1 SAVANNAKHET LABOR MARKET OVERVIEW

Savannakhet had experienced an annual economic growth of 8.53% over the period 2016-2020. It's GDP per capita is estimated to be USD 2,136 (2020). Despite growth, the province's economic structure has witnessed a shift from agriculture towards manufacturing and services, in terms of each sector's respective shares in contributing toward the province's overall economic growth. Table 7 below shows the agriculture share shrank from 32% in 2016 down to 27% in 2020; whereas in the same period both manufacturing and services rose by 3 percentage points up to 38% and by 2 percentage points up to 35% in 2020, respectively. This trend, according to the province's draft five-year socioeconomic development plan (2021-2025), indicated that the province as a whole was gradually moving towards industrialization and modernization.

Table 7: Main economic sectors' contribution: 2016 vs. 2020

Sector	Share 2016 (%)	Share 2020 (%)	Growth (%)
Agriculture	31.61	26.58	3.88
Manufacturing	35.12	38.42	11.23
Services	33.27	35.00	10.04

Source: Savannakhet Province's draft 5-year socioeconomic development plan IX (2021-2025)

Against this background, labour force in agriculture declined from 65.3% in 2016 to 64%in 2020. Conversely, over the same period manufacturing and services saw an increase from 11.4% to 12% and from 23.3% to 24%, respectively.

Labour Demand

Savannakhet province has 9,366 registered business establishments, of which about 35% (3,237) are based in Kaysone Phomvihane City.[3] The top 5 industry sectors by number, in order, are:

- Trade (retail, wholesale, and automotive repair)
- Processing
- Hotels and restaurants
- Logistics (transport and warehouses)
- Construction

Savannakhet Province's draft 5-year Socioeconomic Development Plan IX (2021-2025) quoted a labour survey conducted in the province's 5,608 out of total 9,366 registered business establishments. The survey found at least 25,890 people employed, of which approximately 9 thousand were women. Of the total, approximately 23,000 were local workers. The province has at least 2,039 processing and handicraft factories, excluding those in the SSEZ and border trade areas. The survey identified 1,897 general processing factories (that did not include timber processing and furniture factories) in which 49 were large-sized, 74 were medium, 889 were small, and 885 were family businesses. Potential industries in the province were paper dust and pulp, food and beverage, metal/steel, noodle, drinking water and construction materials.

The surveyed businesses were broken into: (i) 1,328 agriculture-related businesses that employed 4,131 people, (ii) 1,568 manufacturing ones that employed 8,934 people, and (iii) 2,571 service businesses that employed 6,861 people. These three types of businesses employed in total about 2,500 foreign workers. The presented figures show manufacturing is seemingly playing an important role in absorbing more employment. This would be led by the companies and factories based in the SSEZ. The zone is currently housing more than 100 registered local and foreign companies in four Zones A, B, C and D employing some 4500 people (90% being local people) Zone C has 71 companies employing approx. 3,000 people in 2020.[4]

Table 8 shows a number of vacancies posted between May 2019 and January 2021 on the PES website by about 90 companies operating in Savannakhet. The top 3 job category postings are: machinery operations and production (344 vacancies); marketing and sales (99 vacancies); and general services (76 vacancies).

The AASCTF Task Team undertook field missions and organised workshops to gain insights and direct feedback from key private sector employers posting vacancies within these top job categories. The factories demanded workers with suitable and practical knowledge and skills in dealing with factory production lines, machine control and operation. They expected that the workers should be equipped with a certain level of work etiquette, including communication skills, before entering the labour market. Employers increasingly need workers who have a high degree of knowledge, but these cannot be supplied in sufficient quantities as yet.

Table 8: Type of job vacancies on PES (05/2019-01/2021)

Job areas	Number
Machinery operations, production line control, QC	344
Marketing, sales, shipping	99
General services, cleaning, security	76
Wood processing and furniture	58
Surveying and mining	55
Automobile, electrical installment & repairs	39
Accounting, finance, administration, general support	37
Others (legal, IT, agriculture, environment)	44
Teaching English & translators	22
Total	**774**

Source: PES Online, January 2021

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3 According to National Enterprise Database: http://www.erm.gov.la/mapping.asp?lang=EN (11 November 2020). According to the provincial representative of the industry and commerce attending the AASCTF Kick-Off Meeging in November 2020, a number of enterprises in the national enterprise database were not active and the active ones were recorded by the tax bureau of the provincial demarment of industry and commerce).

4 According to Savan Seno Special Economic Zone C – Savan Park (chatting through FB on 11 November 2020)

Labor Supply

The population of Savannakhet stood at 1.05 million (including 0.52 million women) in 2019.[5] This number is expected to grow to 1.14 million (0.57 million women) by 2025, with 11.36%(aged 15-24) being prospective new inexperienced entrants to the workforce. The population of Kaysone Phomvihane City stood at 133,857 (including 67,890 women) in 2020 which accounted for almost 13% of the province's total population.[6] According to Education Management Information System - Ministry of Education and Sports (EMIS-MOES) (SY2019-2020), the net enrolments of students was: (i) 170,514 (93,323 females) in general education, (ii) 4,989 (2,222 females) in TVET, and (iii) 3,932 (2,264 females) in university education. The Savannakhet University (SKU) is the only higher education institution in the province.[7] Skills providers in Savannakhet:

- Savannakhet province has 10 public and private vocational institutions and 1 public university (SKU). The public institutions are Savannakhet TVET College, Health College, Agriculture-Forestry College, Southern College of Justice, and College of Arts.
- The private institutions are Saysombath College of Technology, Songsy College, Sadsavanh College, Savan Management College, and Kamsisouk College.

Lao general education has a duration of twelve academic years, comprising five years of primary education, four years of lower secondary education, and three years of upper secondary education. The compulsory level of education is nine years, starting from primary to lower secondary education (grades 1-9). This compulsory level of schooling expects that students have completed their lower secondary education by 14 years of age – the legal working age according to Lao PDR's Labour Law. Youth aged 14-17 years may be employed provided that they do not work overtime. Those aged 12-13 years may be employed to do light work provided that they will not be required to work under a physically and psychologically unsafe environment and that their work will not interfere with their schooling or vocational training.

The enrolment rates in lower and upper secondary educations were 72.7% and 46.3% respectively during the 2019-2020 school year, based on gross enrolment rates. This suggests that the students completing a primary education at age 10 did not continue the secondary education and might work with their farming families or find jobs as unskilled workers. This is supported by the findings of the AASCTF Task Team field mission and workshops organised. Some factories hired workers with either lower or upper secondary education to work at the production line and trained them on how to perform basic tasks to begin with.

Table 9 shows the enrolments of students in SY2019-2020 in vocational (TVET) and higher education (SKU) and expects that some 2,700 students (including 1,400 females) will complete their studies in SY2020-2021 and enter the labour market.

5 Lao Statistics Bureau. https://laosis.lsb.gov.la/tblInfo/TblInfoList.do (accessed on 5 February 2021).
6 Statistics of Kaysone Phomvihane City's Women Union 2020. Document No. 094 of 14 August 2020.
7 Lao general education consists of five-year primary education, four-year lower secondary education and three-year upper secondary education.

Table 9: Enrolments in TVET and Higher Education Institutions in Savannakhet (2019-2020)

Enrolments	Actual (2019-2020)		Expected (2020-2021)	
Private TVET Institutions	**Total**	**Female**	**Total**	**Female**
College Sadsavanh	32	22	20	12
College Savan Bolihan	176	123	84	56
College Saysombath Technology	911	291	345	96
College Songsy	92	53	17	11
College Khamsisouk	125	67	44	18
			510	**193**
Public TVET Institutions	**Total**	**Female**	**Total**	**Female**
Higher diploma (Qualification Level 5)				
College Technical Vocational Education	920	398	321	157
College Health	501	401	140	118
College Agriculture-Forestry	472	192	198	89
College Law	471	171	175	70
College Arts	72	12	25	6
Diploma (Qualification Level 4)				
College Technical Vocational Education	955	366	113	52
College Agriculture-Forestry	25	8	14	6
College Arts	11	2	0	0
Certificate level (Qualification Levels 1-3)				
College Technical Vocational Education	226	116	226	116
			1212	**614**
SKU	**Total**	**Female**	**Total**	**Female**
Master's degree				
Education management and development	24	10	0	0
Bachelor degree				
Agriculture	584	351	195	109
Business administration	1148	754	298	193
Letter	736	439	204	137
ICT	496	193	101	38
Food technology - nutrition	395	250	130	76
Education	410	253	117	75
Civil engineering	163	24	0	0
			1045	**628**

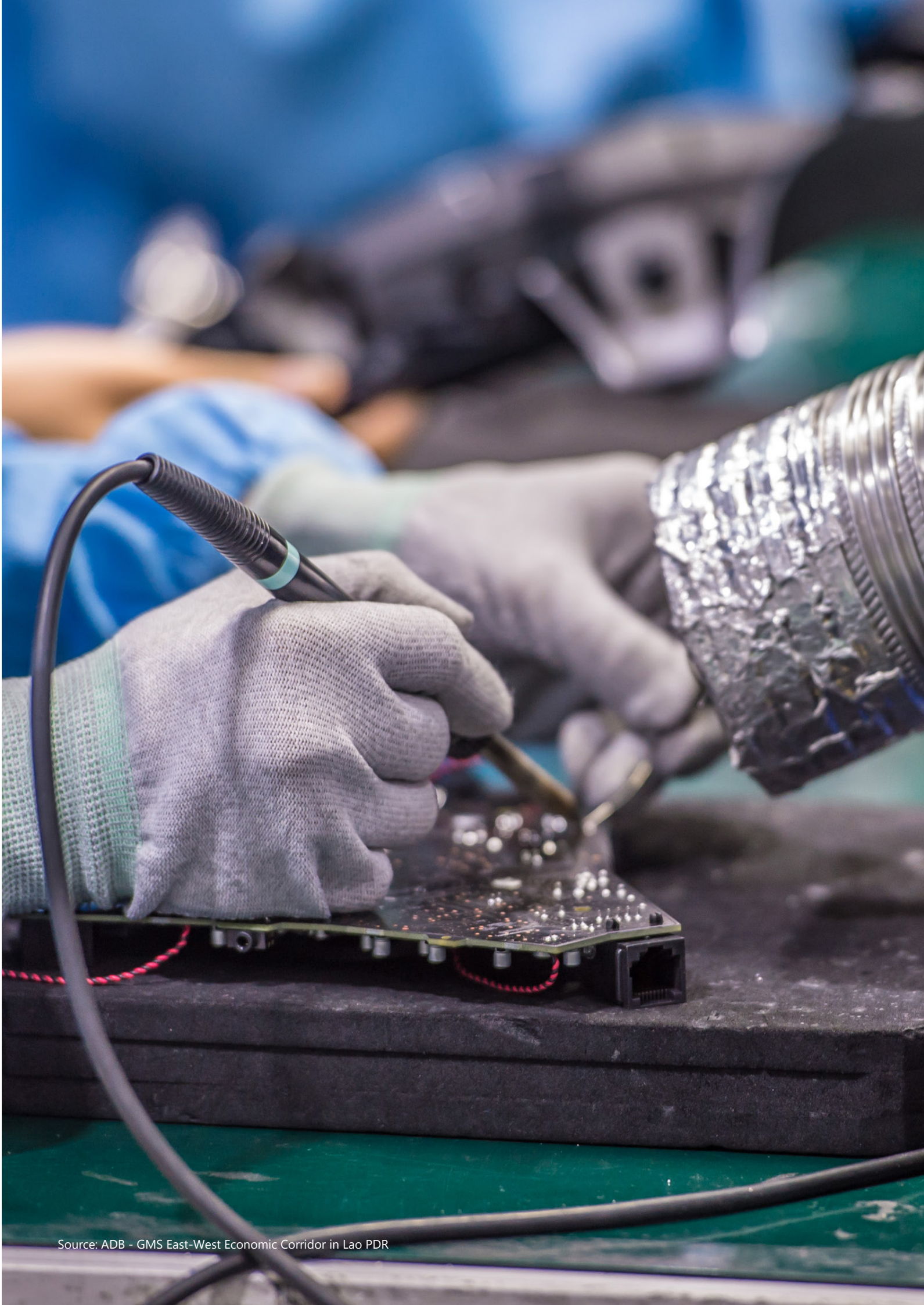Source: EMIS MOES Annual School Census 2019-2020

4.2 FEEDBACK FROM JOB SEEKERS AND EMPLOYERS

The AASCTF Task Team, during execution of the Phase 1 Task Order, conducted workshops and field missions to receive feedback from both the supply side (job seekers) and demand side (private employers). The objective of collecting the feedback was to analyze how both parties perceive the current skills supply-demand gap and what intervention(s) would be needed to mitigate this gap.

Table 10 summarizes some key findings from both labour supply and demand side perspectives gained through direct interviews with students and employers in Kaysone by the Task Team.

Table 10: Key findings from both labour supply and demand perspectives

Students - Supply	Employers - Demand
• Students lack confidence to enter the labour market because schools do not teach them to be familiar with the workplace. They cannot imagine how it is to actually work in a private company.	• Work etiquette training is needed, such as training on what new workers should and should not do at the office or on the factory assembly production line. Training in how to engage in teamwork is furthermore required.
• Students have limited knowledge and lack guidance on how to prepare themselves A-Z (i.e. preparing a resume, interview, office behaviour, communication skills, etc.) before entering the labour market.	• Employers expect that professional staff (those holding bachelor's or higher degrees) are equipped with communication/presentation skills and possess quite a good command of English.
• Students find that schools are concentrating more on equipping students with hard skills (as per curriculum' requirements) than they are with providing soft skills training.	• Employers also expressed similar views to that of job seekers in that they feel that while students can generally explain theories taught at universities/colleges, they lack knowledge on how to work in a office/factory setting.

Source: ADB - GMS East-West Economic Corridor in Lao PDR

5. E-LEARNING METHODOLOGIES

This chapter describes the theory behind how using e-learning modules proposed to be piloted can create a better learning approach for job seekers and employers. Further this chapter explains what kind of e-learning platform and tools are proposed for the Phase 2 pilot project.

5.1 BACKGROUND OF E-LEARNING

The overall objective of e-learning in the context of this project is to teach students soft skills which are not taught well in Universities and Technical Schools before entering the labour market. In the Lao education sector, mostly hard skills are taught. Hard skills are easily teachable, technical, and measurable skills like writing, reading, using computer programs, and even driving a forklift. Soft skills, on the other hand, are skills that are interpersonal and relate to how individuals communicate and empathize, how to approach time management and work ethics, etc.[8] It is crucial to form relationships with people and to become a trustworthy and dependable employer. Soft skills are thus is highly valuable in the labour market.[9]

Technology has made it possible to change human cognition by simulating a physical space in an environment using virtual gamification technology. Several studies conclude that gamification and game-based learning are effective methods compared to traditional methods. Studies involving 10,499 participants have concluded that gamification increases engagement.[10] I. Poncin et. al. (2017) undertook a study which, likewise, concluded that "richer gamified interfaces are more effective".[11] Where gamification uses mechanisms from games in a non-game context (e.g. in e-learning videos), game-based learning uses actual games for educational purposes. Both methods were applied to the activities in this Phase 1 Task Order/pre-feasibility study and can be incorporated into the Phase 2 pilot project.

Theory

Using a gamification or game-based learning approach is not fixed in this project, and more traditional approaches of e-learning, such as how-to videos and traditional non-gamified interactive learning, are likewise considered. It is important to deliberate all relevant approaches, but also to seriously consider using more than one mechanism and/or method. Various e-learning methods and their advantages are described Table 11.

Table 11: Different e-learning methods

E-Learning Methods	Elements	Advantages
Mobile Learning	Touch elements Interactivity	• Just-in-time • Accessibility • Reducing cognitive load • Combination with other approaches
Game-Based Learning / Gamification	Levels Rewards Instant feedback Scores Badges Competition Leaderboards Collaboration	• High learner engagement • Immersive approach • High recall • Better retention (sticky learning) • Improved application of the acquired learning on-the-job • Reinforcement • Challenges that stimulate learning resources • Practice and proficiency gains • Trigger change in thinking • Influence behavioral changes
Training Video/audio tape	Interactivity Compressed knowledge Information Repetition	• Easy knowledge sharing • Visual learning • Scalability
Quizzes	Multiple choice Rewards Scores Gamification input	• Simple • Recognizable • Instant feedback • Learning by repetition

8 Dixon, J., Belnap, C., Albrecht, C., & Lee, K. (2010). THE IMPORTANCE OF SOFT SKILLS. Corporate Finance Review, 14(6), 35-38. Retrieved from https://search.proquest.com/scholarly-journals/importance-soft-skills/docview/751644804/se-2?accountid=14468
9 Heckman, James J., and Tim Kautz. "Hard evidence on soft skills." Labour economics 19.4 (2012): 451-464.
10 Looyestyn, J., Kernot, J., Boshoff, K., Ryan, J., Edney, S., & Maher, C. (2017). Does gamification increase engagement with online programs? A systematic review. PloS one, 12(3), e0173403.
11 Poncin, I., Garnier, M., Mimoun, M. S. B., & Leclercq, T. (2017). Smart technologies and shopping experience: Are gamification interfaces effective? The case of the Smartstore. Technological Forecasting and Social Change, 124, 320-331.
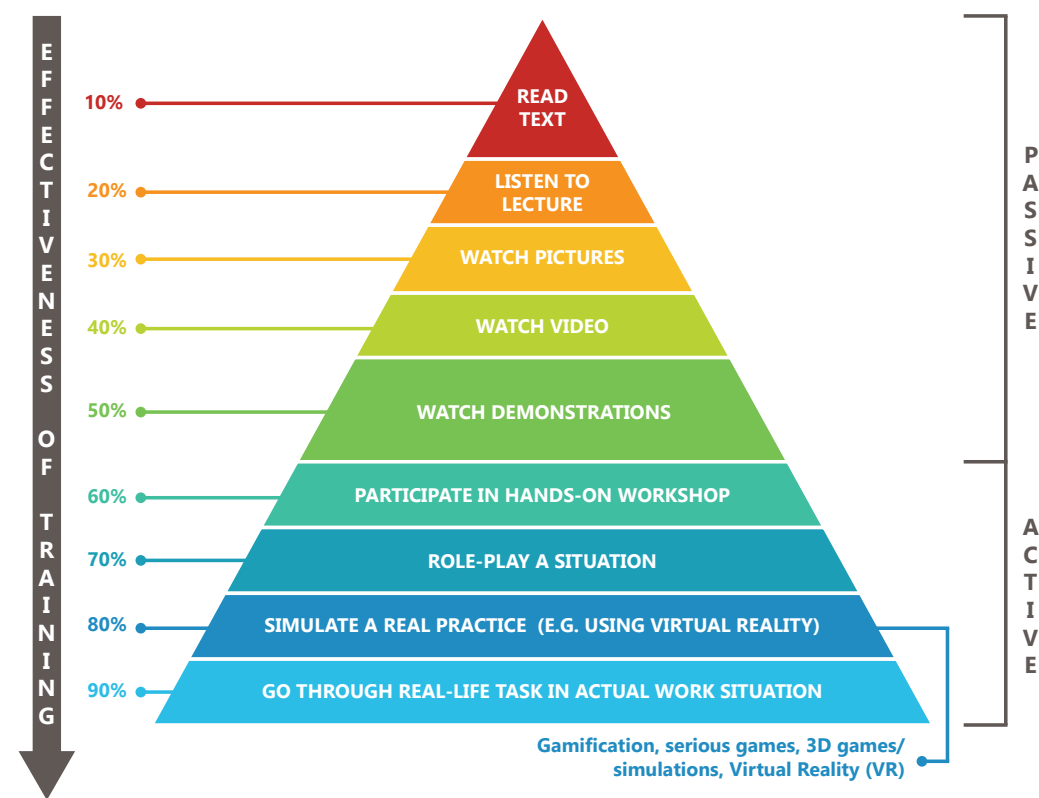
Figure 1: Cone of Experience - hierarchy of learning methods

Absorption

In the cone of experience originally proposed by Dale (1969), the hierarchy of learning methods indicates active learning as much more beneficial than conventional approaches. Where traditional education methods are mostly passive, and less than 50% effective in terms of learning outcome, simulating real practices through interactive e-learning or game-based learning can potentially increase the effectiveness up to 80%.[12,13]

Gamification Mechanisms

Gamification is a well-known framework and method to use in different learning perspectives. In short, gamification means to use game mechanisms in a non-game context. The most commonly used mechanics are elements as progress bar, levels, scoreboard, points, and badges. The choice of the mechanics depends on the products, context, and user profiles. The overall purpose of using 2D and 3D gamification learning formats and interactions is to increase human cognition and motivation. Studies conclude that game-based learning increases the engagement as it gets more interesting and fun to learn by rewarding, involving, and challenging the users.[14] Gamification as a method is not limited to 3D universes. It is widely used in 2D e-learning and even in non-digital contexts. The scalability is endless, and the implementation degree can range from using only a small progress bar to full implementation of the method.

2D E-Learning Videos

2D e-learning videos can be built with pictures, video clips and graphic material to enhance and explain the content in a visual way. All fundamental information has voice over and subtitles so you can easily follow the training. The approaches studied and applied use visual design adapted for on-screen reading to facilitate text comprehension. In the e-learning videos access to external links that provide real-time data can be integrated. After each section, it can be an option to complete interactive exercises and questions where users are able to repeat and reflect on their learnings.

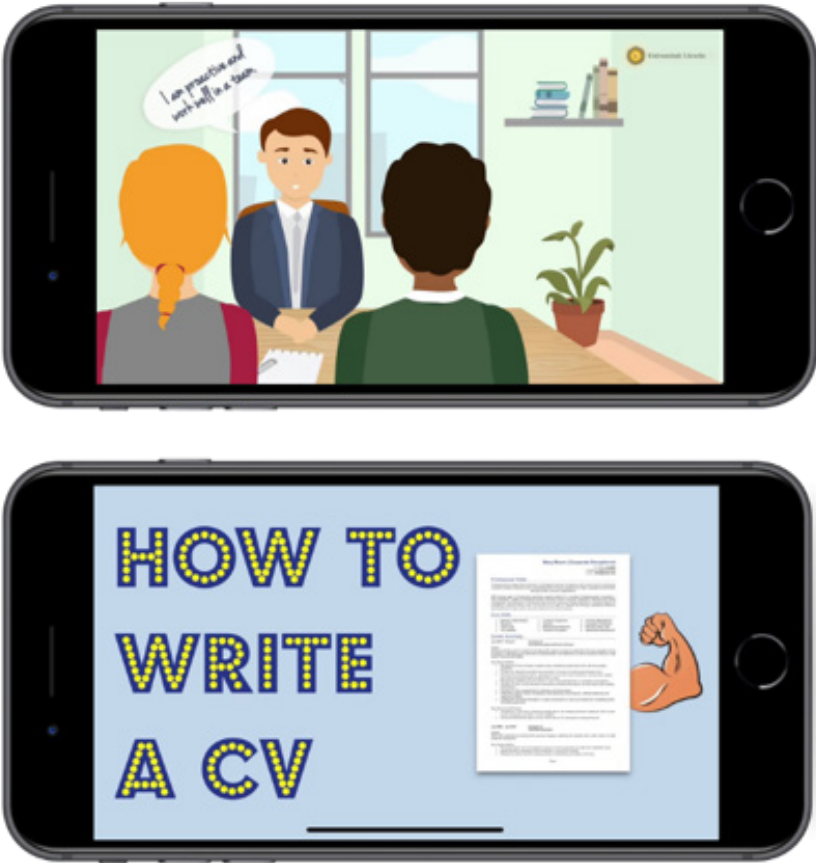**Figure 2:** Video-based interview and CV writing e-learning

12 E. Dale, Audiovisual Methods in Teaching, 1969, NY: Dryden Press.
13 Zhao, D., & Lucas, J. (2015). Virtual reality simulation for construction safety promotion. International journal of injury control and safety promotion, 22(1), 57-67.
14 Muntean, C. I. (2011). Raising engagement in e-learning through gamification. Conf. Virtual Learning, 1:323-329.

Figure 3: Virtual Office and Warehourse 3D Game based learning formats

Game-Based Learning

The 3D Game-based learning formats is a teaching approach, where students explore relevant aspect of 3D learning applications/games in a learning context designed by educators. Game-based learning applications can draw users into virtual environments that look and feel familiar and relevant. In an effective game-based learning environment, the users work toward a goal and experience the consequences of their choices along the way. Making mistakes in a risk-free environment, activates willingness to practice the right way to do things. This keeps the users highly engaged in practicing behaviors and thought processes that can easily be transferred from the simulated environment to real life.

In a study, 103 university students were divided into a game-based learning group (game-based learning materials) and a non-game-based learning group (webpage-based learning materials). The study revealed that the game-based learning group created significantly more engaging and motivational experiences than the non-game-based learning group. The game-based learning group were likewise significantly more interested, concentrated, and able to control over their learning than the non-game-based learning group.[15]

The smartphone wireframes (Figure 3) is illustrating our demo mockups for the 3D game-based learning formats. The two top wireframes are showing an office environment and the other wireframes are showing warehouse/industrial context. The learning method is that the avatar is simulated through the 3D environment and receives small card challenges regarding soft skills. In this concept there will also be integrated other gamification mechanics such as; progress bar, badges, points etc.

15 Chang, C. C., Liang, C., Chou, P. N., & Lin, G. Y. (2017). Is game-based learning better in flow experience and various types of cognitive load than non-game-based learning? Perspective from multimedia and media richness. Computers in Human Behavior, 71, 218-227.

6. SUSTAINABILITY ASSESSMENT

This chapter provides a brief background on the benefits and impacts of the LMIS, for which the proposed e-learning solutions under the AASCTF intervention are considered to be an extension of. Further this chapter develops a framework that will be used during the pilot project to test the sustainability and scalability of such e-learning based solutions beyond the donor-funded project period.

6.1 DRIVERS AND CHALLENGES FOR SUCCESS

There are many positives for the proposed pilot, which hint at strong benefits from investments for all industry stakeholders. These will need to be identified, tracked, monitored and evaluated (M&E) throughout the pilot phase, and include:

- The smart learning market is growing fast. The global smart education and learning market was worth USD 191 billion in 2018, and is expected to grow to USD 783 billion by 2027 owing to the proliferation of connected devices in the education sector, adoption of e-learning solutions, massive online open courses (MOOCs), online tutorials, and growing use of Artificial Intelligence (AI) and Machine Learning (ML) in smart learning.[16] The COVID-19 pandemic has exacerbated and accelerated these trends.
- Realisation of benefits is highest when private-public partnership drives the LMIS. The benefits of the LMIS are best realised when all industry stakeholders align.[17]
- Digital apps are working and used by the skilled labour force job seekers in Kaysone.

The challenges are clear too, and include:

- Collaboration among stakeholders is required. The purpose of developing an e-learning solution as an extension of the LMIS is to reduce the mismatch between demand and supply for jobs and skills in the city. The direct beneficiaries in Kaysone from this proposed intervention are split among demand and supply groups. On the demand side, beneficiaries include businesses and the revenues of the city, owing to enhanced economic activity (resulting from greater revenue in taxes, fees from land and people) and productivity. On the supply side, the beneficiaries include local educational institutions which create/deliver new and/or improved courses to support skill development, and job seekers who want to receive improved skills which should lead to greater opportunities and higher paying jobs.
- The city must lead. For Kaysone city to achieve these gains, e-learning tools will require investment in: (i) data development, (ii) establishing M&E systems, and (iii) new institutional arrangements. Currently, Lao PDR has it's PES website under the MLSW which the future LMIS will need to be both aligned with and built upon.

Table 12 overviews the high-level, economic and financial costs and benefits of developing an extension.

Table 12: High-level costs and benefits of developing an extension

Costs	Benefits
Collection and compilation of data and information	The transaction costs of labour market are reduced, as LMIS based e-learning may help to overcome incomplete information of labour market agents
Analytical capacity and tools	Mismatch between supply and demand might decrease
Institutional arrangements and networks	Higher education leads to higher salary
	Productivity
	Growth of the economy

To ensure the city can achieve the desired benefits, decisions need to be made over its investments of both resources and finance for maintaining/expanding e-learning tools as an extension of present labour market information. There are several aspects to be considered, e.g. scale of the challenges, focus, data access and institutional alignment. A key element of gaining traction in Kaysone and scalability across Lao PDR will include economic considerations, e.g. scale of costs, benefits, challenges and decisions that are associated with it.

6.2 LABOUR MARKET STAKEHOLDERS IN KAYSONE

To work well, smart cities need at least three elements to function coherently and sustainably together to build capability, pilot solutions and learn and scale:

- smart government and infrastructure
- strong inclusive entrepreneurial ecosystem, i.e. private sector
- a smart and innovative population

It is for this reason that we have selected representatives from Kaysone across each of these three elements in the Programme Implementation Unit and Steering Committee (elaborated in Part B of this report). The education system for Kaysone city has a pivotal role to play when planning success including when both considering digital solutions and educating the population for a digital future. For instance, the city's education system must work in close collaboration with the other two elements – businesses and local government - to ensure a collective push to develop and test new technologies, transform ideas into pilots, and unlock and analyze urban data for the good of the city's citizens.

16 Fortune (2020). Smart education and learning market. https://www.fortunebusinessinsights.com/industry-reports/smart-education-and-learning-market-101942; Research and Markets (2020). Smart Learning Market Worth $56.5 Billion by 2024 - Proliferation of Connected Devices in the Education Sector Drives Growth. Available at: https://www.globenewswire.com/news-release/2020/02/05/1980388/0/en/Smart-Learning-Market-Worth-56-5-Billion-by-2024-Proliferation-of-Connected-Devices-in-the-Education-Sector-Drives-Growth.html
17 NCDC and UNDP (2011). Concept paper of Labour Market Information System – an Indian perspective. 148pp, https://www.tsscindia.com/media/1433/concept-paper-on-lmis.pdf

Sustainability' here refers to the sustainability of investments of time, resources, and finance for all the stakeholders. Specific to this section are considerations by stakeholders when facing adoption of any new technology or digital solution, including:

• City: are the cost-benefits positive, and for whom?
• Business: is the technology additive, efficient and scalable for me to invest in and integrate into my business model?
• Population: will investments in further education or understanding of a new technology or soft skill increase my value to current and future employers?

Fortunately, there is considerable evidence that improved digital education is positive for all stakeholders and that LMIS and enhanced versions thereof are proving financial and economic benefits.

First, the three key stakeholder groups – city, businesses, and citizens – need to be aligned and supportive to indicate how the future education systems needs to be re-designed and what their specific needs are.

Second, it is imperative that the city has data, information and insights into its baseline labour markets. This will enable the mismatch among demand and supply to be narrowed and ensure that investments made at city and national level are efficient and effective. Yet, from a decision-making viewpoint, statistics remain weak for Kaysone's city, citizens, and businesses. Furthermore, Laos has not ratified ILO's Labour Statistics Convention (1985).[18] As an example of the data lacking, labour data covering underutilisation, informality, and sectors, which are gender-disaggregated, skills-linked and education-focused are needed to inform the education system profile and discussions over policy, investment and decisions by all stakeholders.[19,20]

Third, for Lao PDR economy, there is concern that a mismatch in skills is hampering development of important growth industries. When skilled jobs go unfilled, the competitiveness and productivity at both city and country level will suffer.

Lastly, digital elements of education need to be a core element of Kaysone's smart city vision. If Kaysone city can get the digitisation of higher education right, the result is an attractive city to work and live in, driven by a strong knowledge economy. Digital campuses will turn out digital graduates that go on to become smart citizens and underpin growth across the city economy. Plus, a city's education system sits at the heart of the transformation from industrial to information-based city economies.

6.3. ASSESSING THE PILOT

The initial sustainability of the pilot seems positive, with evidence-based decisions being made collectively by a leading group of industry stakeholders, which build on the national industry standard labour market matching media. However, as Box 3 illustrates, we remain without direct causal evidence for a link between LMIS and labour market data in general and beneficial outcomes. Our analysis of digital solutions is likewise hampered by a lack of evidence from global studies. Yet, to maximise benefits, this pilot will be developed with the local industry stakeholders from the supply and demand sides.

Box 3: Three conclusions from international survey on LMIS benefits

1. There is no evidence on the impact of labour market information per se on labour market outcomes.
2. Job-search assistance programs have positive but modest short-run effects on job seekers' employment prospects, even among young and unskilled unemployed persons. These policies are cost-effective because they are cheap relative to other active labour market policies.
3. Internet-based information is effective for firms looking for workers. As a job-search strategy for individuals the internet is evidently useful (since it is becoming the dominant platform for job search), but its effectiveness has yet to be quantified.

Source: CSLS (2010). THE STATE OF KNOWLEDGE ON THE ROLE AND IMPACT OF LABOUR MARKET INFORMATION: A SURVEY OF THE INTERNATIONAL EVIDENCE. CSLS Research Report 2010-05, 55pp, https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.461.9333&rep=rep1&type=pdf.

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18 ILO (1985). C160 - Labour Statistics Convention, 1985 (No. 160. https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRU-MENT_ID:312305
19 In the UK (City and Guilds, 2018; Cebr (2014). Economic impact of apprenticeships: A Cebr report for the Skills Funding Agency. Retrieved from http://www.cebr.com/reports/economic-impact-of-apprenticeships/;
20 BIS research paper, number 53 (2011): https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/32354/11-1282-returns-intermedi-ate-and-low-level-vocational-qualifications.pdf

6.4 SUSTAINABILITY INVESTIGATION PROCESS/FRAMEWORK

The AASCTF Task Team will work with the Steering Committee to develop and tailor a broad process to be followed during the pilot project in order to assess the sustainability and scalability of the proposed e-learning platform as extension. Figure 4 provides an overview of the process we will follow for the assessment.

Key sustainability parameters that will be applied in Phase 2 pilot assessment include:

- Data: building the data-centred evidence base which address challenges – including missing data on baseline, and on the full range of benefits associated with the proposed enhanced intervention in the labour market in Kaysone.
- Investment: engaging with private sector actors to determine their interest in enhanced e-learning will be important, but we are unclear if we shall be able to obtain investment potential from these surveys.
- Monitoring and Evaluation: we will target the impact of key changes on stakeholder groups and industrial sectors.
- Economic viability – this will be tracked, evaluated and assessed using cost-benefit analysis, and aligned with decision-making approaches and criteria of Kaysone city.

6.5 OUTPUT

The output of this work will be a transparent description and analysis of the pilot project, including the impact on key labour market criteria – including jobs, wages and placements for skilled positions. It will also enable analysis of the impact on specific stakeholders – including the city of Kaysone, private sector, the academic community, and citizens. This will enable the design of interventions by the city of Kaysone and ADB and other financing institutions to enhance and upgrade the digitalisation of the education system in Kaysone.

The pilot phase will include a detailed economic and financial sustainability assessment to determine:

- Policies and regulatory mechanisms that sustain adoption of e-learning.
- Investments (and other commitments) required from stakeholders.
- Ownership of the e-learning system and modules developed in the pilot.
- Scaling and replicability options and roadmap for the e-learning system.

Figure 4: Sustainability Framework

7. GESI CONSIDERATIONS

This chapter addresses the Gender Equality and Social Inclusion (GESI) context in Kaysone, Lao PDR, and outlines how GESI will be addressed in the proposed pilot project.[21,22] It provides a high-level description of the GESI context, challenges and barriers, key needs and opportunities experienced by vulnerable and marginalised groups.

This chapter is based on a desktop assessment and initial consultations conducted in Kaysone in December 2020. Focus group discussions were held at Savannakhet University (SKU) and Technical, Vocational Education and Training (TVET) colleges (separately) engaging 48 students in total (including 32 female).

7.1 NATIONAL GESI CONTEXT

Lao PDR ranks 43rd in the Global Gender Gap Index (GGGI) out of 185 countries, behind only the Philippines among the ASEAN countries.[23] The GGGI is measured based on the relative gaps between men and women across 4 key areas: (i) Economic Participation and Opportunity, (ii) Educational Attainment, (iii) Health and Survival, and (iv) Political Empowerment. Countries are given a score from 0-1. A score of 1 indicates full equality between women and men and a score of 0 indicates full inequality. Lao PDR ranked 3rd for Economic Participation and Opportunity, just behind Iceland, scoring 1.0 in professional and technical workers but scored 0.46 for legislators, senior officials, and managers. Indicating that women are underrepresented in the formal sector and at management levels. In terms of Educational Attainment, Lao PDR scored 0.96 overall but there were significant differences in literacy rates between women and men. Health and Survival received a score of 0.97, but Political Empowerment only scored 0.15. Political Empowerment is an area where women are severely underrepresented. Almost 28% of the Lao National Assembly representatives are women – a proportion that compares favourably with those in the Philippines and Vietnam, and surpasses that in many industrialised countries.

It is noted that the literacy rate amongst women (79.4%) is significantly below that of men in the country (90%).[24] Within urban areas, the gender gap in education has practically closed, while rural areas record some of the lowest educational indicators in the country, and the gender gap continues to widen. Causes of Lao illiteracy and low attendance among girls and women vary across provinces and among the different ethnic groups; poverty, traditional beliefs, son preference, language, and remoteness are important factors and girls are found to be dropping out of school due to household chores, early marriage and/or pregnancy.[25]

In Lao PDR, 18% of girls aged 15–19 have begun childbearing and 15% of maternal deaths occur to teenage girls, particularly in rural areas.[26] This significantly impacts their ability to undertake higher education, and develop skills leading to formal employment.

According to the ADB Country Gender Assessment Report, the proportion of women in formal wage employment increased from 38 to 44% in the 1991 to 2005 year period.[27] Transition from subsistence farming to cash crops such as coffee and rubber, and the establishment of factories producing export goods in urban areas has created more wage jobs, which has, in turn, provided more financial independence for women. According to Indochina Research's I-TRAK report, 55% of respondents think women face more challenges in the workforce than men. Some obstacles mentioned by respondents included domestic expectations to manage work life and housework, social attitudes towards women in the workplace and physical strength issues in some more demanding jobs. The report also mentions that 25% of the women polled would like to open their own business within the next 5 years, and an additional 18% would like to expand their existing business. Additional ways in which Lao women expect to find more success in the future is by pursuing higher education (17%) and getting a promotion (6%).[28]

The joint report published by the Lao People's Revolutionary Youth Union and the United Nations Population Fund highlights the need for strong linkages between education and employment sectors to ensure that all young people, regardless of gender, disability or ethnicity are able to benefit from the growing opportunities that will arise in the region.[29] The Report found that youth in Lao PDR identified the lack of employment opportunities as a key concern and that there is a need for more youth-focused employment initiatives, or greater awareness that services are available to them, particularly in urban areas where work as part of the family farming unit is not available as an option.

Based on a report by the International Labour Organization (ILO) in relation to people with disabilities, there is no reliable information on the number of people with disabilities in the Lao PDR.[30] ILO highlights that many people in Lao PDR, as in most developing countries in the world, live in poverty, have limited opportunities for accessing education, health, suitable housing and employment opportunities. The Lao Disability Network (LDN) states that there are limited services that support persons with disabilities to gain and maintain work and employment.[31] Current social protection programs support war veterans who are unable to work, or those who have acquired an injury at work and cannot continue to work, but not persons with disabilities who are unable to work.

21 Gender equality is about equal opportunities, rights and responsibilities for women and men, girls and boys. It does not mean that women and men are the same. Gender inequality is a result of unequal power distribution between women and men, exacerbated by ongoing discrimination, weaknesses in laws, policies and institutions, and social relations that normalise inequality.
22 Social inclusion is a broader concept, and is about ensuring that all members of society, including people with disabilities, are included in key processes, including but not limited to decision-making, consultation, employment opportunities, or involvement in government service delivery. The United Nations (UN) defines social inclusion as "the process of improving the terms of participation in society, particularly for people who are disadvantaged. Through enhancing opportunities, access to resources, voice and respect for rights".
23 Source: World Economic Forum. Global Gender Gap Report (2020). Online: http://www3.weforum.org/
24 Source: Global Gender Gap Report 2020. Online: http://www3.weforum.org/
25 Source: Lao PDR: Country Gender Profile Report. Online: https://www.jica.go.jp/

26 Source: Santisouk, P. et al. 2020. Pregnancy health literacy among teenagers in Kaysone district, Savannakhet Province, Lao PDR. Global Health Action. Vol. 13(2).
27 Source: Country Gender Assessment for Lao PDR. Online: https://www.adb.org/
28 Source: Indochina Research Ltd (2015). Online: https://www.aseanbriefing.com.
29 Source: Adolescent and Youth Situation Analysis: Lao PDR "Investing in young people is investing in the future". Online: https://lao.unfpa.org/
30 Source: Inclusion of People with Disabilities in Lao PDR. Online: https://www.ilo.org/
31 Source: A Stakeholders report prepared by Lao Disability Network. Online: https://uprdoc.ohchr.org/

7.2 KAYSONE PHOMVIHANE GESI CONTEXT

About 60% of households in Kaysone are engaged in activities in the commercial and services sectors and this reflects the increasing number of medium and large trading and commercial enterprises in the town.[32] Kaysone does not have a shortage of labour, but of semi-skilled labour. The geography of intra-poverty incidence indicates that the eastern Kaysone districts are dominated by higher poverty rates, whereas the western part, which shares its border with Thailand, features a lower poverty incidence.[33] However, the density of poorest people is higher in the western part due to the much higher absolute population number in the Kaysone district.

Women and girls deserve special attention in order to overcome the gender imbalance in terms of literacy, education attainment, and livelihood activities in Lao PDR generally, and in Kaysone specifically. According to a case study done in the Kaysone district, it was found that men spend 4.6 hours a day on average, as compared to 3.9 hours a day for women, on livelihood activities (paid/unpaid work) and subsistence activities, including 3 hours, as compared to 2.2 hours per female, taken up with agriculture, fishing or hunting. Women were also found to spend a significantly higher time making handicrafts, collecting water and firewood, working in the household , and mostly completing housework (2.4 hours per day compared with 0.5 hours by men). Men were expected to do the heavy lifting and be breadwinners, as women were expected to complete household chores or carry out less labour-intensive tasks. Indeed, FGD participants during the fieldwork conducted in December indicated that gendered assumptions on the roles of women and men may impact job opportunities.

A major gender gap exists in the province within education. The literacy rate of the province for males is 78.5% while for females it is 59.2%. School attendance rates indicate a similar gender gap.[34] According to a report by the Japan International Cooperation Agency (JICA) in 2016, lower secondary school enrolment rates for girls in the Savannakhet province in 2015 was 63.5% as compared to 61.7% for boys.[35] Many poor families do not see the relevance of formal education for improving their livelihoods, and the lack of interest by parents discourages children from attending school.[36] In other cases, there is an insufficient

supply of schools or teachers, and both the direct and indirect costs of attendance (school fees and uniforms as well as income lost without youth contributing to the household economy). The gender gap widens dramatically with the level of education and subject area. According to a survey by the ADB, women in Lao PDR tend to work more in hospitality and administrative roles, whereas men worked in areas such as law or engineering.[37] It is further noted by the ADB that in Lao PDR, at the diploma level 84% of the female students are enrolled in agriculture, business, hospitality and tailoring; 4% of females enrol in electrical and electronics training; at the certification level, 96% of females enrol in hospitality programs.

In terms of people with disabilities attending school or higher education, there is limited information on the number and status in Lao PDR, specifically Kaysone city. People with disabilities are much less likely to go to schools, and if they do enrol, they are more likely to drop out earlier as resources for them are extremely limited. The GESI focus groups (i.e. those groups that should receive targeted attention in the proposed pilot project based on their vulnerability and/or marginalization) identified at this point in Kaysone relevant to the pilot project are considered to include the following groups (note: this should be confirmed and validated through the early stages of the proposed pilot project through additional engagement and assessment):

1. Women in Kaysone, with specific focus on women living in poverty, and women-headed households.
2. Youth, living in poverty, and experiencing under- and unemployment.
3. Persons with disabilities.

Table 13 highlights the challenges and opportunities for GESI focus groups, and also indicates the key needs and opportunities present that may form a focus of the upcoming pilot project.

32 Source: Inclusion of People with Disabilities in Lao PDR. Online: https://www.ilo.org/
33 Source: Edo, A & Phommalath, A (2012). Provincial Poverty Dynamics in Lao PDR: A Case Study of Savannakhet. Journal of Current Southeast Asian Affairs, vol. 31, no. 3, pp. 3-27. Online: https://www.researchgate.net/
34 Source: Summary Report on the Preparatory Study for Environmental and Social Considerations. Online: https://www.jica.go.jp/
35 Source: Final Report: Data Collection Survey on Education Environment of Lower Secondary Schools in Lao PDR. Online: https://openjicareport.jica.go.jp/
36 Source: Lao PDR Gender Profile. Online: http://www.worldbank.org/

37 Source: Country Gender Assessment for Lao PDR. Online: https://www.worldbank.org/

7.3 KEY CHALLENGES AND BARRIERS, NEEDS AND OPPORTUNITIES

Table 13: Key challenges and barriers, needs and opportunities

	Challenges and Barriers:	Needs and Opportunities:
Job Market:	• Employment opportunities vary significantly between urban, rural locations, and between boys and girls. There is a mismatch between the young people available for work and the types of work available for young people (both males and females). There are too few trained young people for the jobs that are available and a lack of information on job recruitment for un-skilled, or low-skilled work.[38] • The absence of gender indicators disaggregated by sex leads to poor monitoring mechanisms and gender-blind decision and policy making processes. • There is a lack of flexible work options in the job market, ruling out many women due to child-minding requirements.	• As the tourism industry is expected to grow, this is an opportunity for e-learning modules to tailor to tourism and management with women already making up a large proportion of this sector. • Consideration/creation of part-time/flexible positions by companies in Kaysone could allow for greater participation of women in the job market. Further, awareness creation through targeted advertising of part-time and flexible conditions would be required.
Digital Divide:	• The high cost of computers/internet services create a large divide between people who can afford them, and who have access to all the advantages of a computer, and those who cannot.[39] Many would like to have their own mobile but most feel that even if they did buy one, the top-ups for internet data would be unaffordable because they are either not earning an income, or are earning a lot less a month.[40][41] Poor affordability is exacerbated by COVID-19 for GESI focus groups. • Fixed broadband speeds for Lao PDR are significantly lower than in the benchmark. Internet speeds are generally slower, and services are less than reliable, particularly in rural areas in Lao PDR.[42] [5]	• Providing access to facilities in SKU/TVET for job seekers who are not able to afford smart phones to access e-learning modules or installing free Wi-Fi hotspot areas. • There is a need to understand complementary learning methods that may be utilized alongside planned digital e-learning methods (e.g. offline, not smart phone based, mixed in-person and digital, among others).
Education:	• There is no career guidance or counselling structure or information systems able to deliver relevant labour market information to youth and adults about job requirements, opportunities and workplace expectations. This should be considered a priority to reduce the current mismatch between labour demand and supply. • There are likely to be significant numbers of GESI focus groups that have poor access to information and awareness of the further educational opportunities available to them, due to existing barriers in access to technology, and poverty.	• Ensuring that information, education and communication (IEC) programs implemented under the e-learning modules properly target women and girls with relevant information to match labour demand and supply. • Awareness creation modules on gender equality and social inclusion modules, including both for job seekers and potential employees, to mitigate gender role assumptions that may be present. • There is an opportunity to provide e-learning modules to enhance the capacity of women with potentially transferrable skills (e.g. from small businesses in the informal sector to formal employment in growing sectors in Kaysone). • Digital literacy training for targeted groups to ensure e-learning platform is utilised to its full capacity/intended use.
Skills:	• There are significantly less women studying and working in technical roles (electronics, engineering, etc.) in Laos, with women skewed towards business, hospitality, agriculture, among others. • People with disabilities do not have social security for unemployment and this greatly affects their livelihood. This is due to a lack in accessibility to quality education or programs to enhance their skills needed for formal employment. • Job losses due to COVID-19 throughout Laos – particularly in tourism-related services where women are highly impacted.	• There is an opportunity for skills matching that specifically attempts to understand transferability of female dominated professions/skills considering key job growth sectors in Kaysone, including developing training to enhance these skills. • E-learning modules to further enhance interpersonal skills to make domestic (Kaysone-based) hires as attractive as foreign workers as well as career planning workshops to ensure that youth have access to education and trainings that aligns with the available jobs (i.e. resume workshops, interview assistance, developing organisational skills, enhancing people and communication skills). • An opportunity exists to better assist, through job and skills matching, workers that have lost their jobs or are under-employed due to COVID-19.
Social/ Normative:	• The level of awareness gender equality and women's rights is still limited, especially among those residing in more rural areas such as Kaysone. focus group discussion participants indicated that gendered assumptions on the roles of women and men may impact job opportunities.	• More data in relation to GESI focus groups is required as gaps and inconsistency are present, particularly at the city level. There is growing recognition of the importance of better data. Data is important and needs to be disaggregated while qualitative data needs to be as valued as quantitative data. • Addressing gender assumptions through awareness training for both job seekers and employees is a key opportunity (see above too).

38 Source: Adolescent and Youth Situation Analysis Lao PDR: Investing in young people is investing in the future. Online: https://lao.unfpa.org/
39 Source: Crenshaw, EM & Robison, KK (2006). Globalization and the Digital Divide: The Roles of Structural Conduciveness and Global Connection in Internet Diffusion. Social Science Quarterly, vol. 87, no. 1, pp.190. Online: https://onlinelibrary.wiley.com/
40 Source: Alliance for Affordable Internet: 2015-2016 Affordability Report. Online: https://a4ai.org/
41 Source: Digital Connectivity in Lao PDR – Lagging Behind Peers: A Short Assessment with Policy Recommendations to catch up.
Online: http://www.worldbank.org/
42 Source: Digital Connectivity in Lao PDR – Lagging Behind Peers: A Short Assessment with Policy Recommendations to catch up.
Online: http://www.worldbank.org/

8. KEY TAKEWAYS FROM PRE-FEASIBILITY

This chapter summarizes the key takeaways from the pre-feasibility study. The Phase 2 pilot project has been designed based on these findings gathered through interviews, workshops and assessments carried out with the government, educational institutions, job seekers and employers by the consultant during this pre-feasibility Phase 1 project.

8.1 FEEDBACK ON DIGITIZATION FROM JOB SEEKERS AND EMPLOYERS

During the pre-feasibility project, the 3 following workshops were organized with relevant stakeholders:

- Kick-off and Conceptual Workshop on 18th November 2020 participated by representatives from SKU, SKU Youth Union, TVET college, Xaysombath college, SSEZ, Education and Sports Office, Labour office, Commerce and Industry office, Kaysone City Office and Provincial Labour and Social Welfare Office.
- Workshop on Demonstration of Digital Tool AASCTF on 22 December 2020 participated by representatives from SKU, SKU Youth Union, TVET college, Xaysombath college, SSEZ, Education and Sports Office, Labour office, Commerce and Industry office, Kaysone City Office, Office of Trade and Industry and Provincial Labour and Social Welfare Office.
- Private Sector Workshop on Demonstration of Digital Tool on 25 January 2021 participated by representatives from Savan logistic company, Nateiy company, Plastic bag company, Golden sean company, EMC company, Savan-kai company, Savan park company, KPCKS company, Denso company, Meepa moto lao company, MG company, Savan-logistics company, Celestica company, LNC company, KOYO company, office of SSEZ.

The three organized AASCTF workshops with different stakeholders together with interviews with students have provided some feedback on using digital tools and e-learning modules to be developed as follows:

Key takeaways from 1st workshop (18 November 2020):

- SKU Students Affairs emphasized the importance of e-learning modules on soft skills of students and foreign languages. The proposed digital tools/e-learning would be a supplementary tool for students from SKU for instance to upgrade their skills and knowledge about work life before entering the labour market.
- The SSEZ factories were reportedly labour-intensive while there was trend towards a knowledge-based labour market and economy which would rely more and more on electronics equipment and tools – allowing people to work from home. Digital tools thus are increasingly viewed as important, considering the Fourth Industrial Revolution or Industry 4.0.

Key takeaways from 2nd workshop (22 December 2020):

- Participants of Xaysombath Technical College emphasized that developing e-learning tools should engage educational institutions to ensure sustainability. In case programming issues arise, local technicians (programmers) can fix the issues.
- Regarding the digital tool for office onboarding, participants proposed that it is important that engagement of the local employers be ensured. The input from the industry would help design practical digital tools and could address correct skillsets required by both students and the particular employers.
- Given COVID-19, the participants had attached the importance of digital tools through online learning. The tools allowed learners or users to learn anytime and anywhere whenever they were ready. Moreover, learners were able to improve their IT literacy.
- SKU students reportedly had difficulties in accessing data and (the internet) connection was slow within the university campus. The upgrading of SKU's IT infrastructure from SSHEP (Second Strengthening Higher Education Project) would hopefully solve the ongoing problem.
- Students in general were not able to have access to the labour market information, and the information, if available, is not updated. As a result, they could not identify the right skills required by the labour market. Should proper tools be developed (available from YouTube for example) the students would likely have more motivation and be more interested. The digital tools to be developed would help the students and job seekers access the LMIS more easily to land their dream jobs.

Key takeaways from 3rd workshop (25 January 2021):

- The e-learning tools should be easy to access and user-friendly while supporting the development of both hard skills (e.g. logistics) and soft skills (workplace ethics, interpersonal communication, interview preparedness, English language, etc.).
- The introduced digital matching tool and e-learning modules should be linked with the existing PES website to ensure the availability of reliable and timely labour market information.
- The e-learning tools should be self-training tools or packages that will encourage users to use by testing them and providing them scores.
- The existing PES website is not widely promoted. Both the PES website and e-learning tools should be promoted to make job seekers and employers aware of their benefits.
- Savan Logistics mentioned a well-functioning PES would reduce recruitment costs. However, loading the PES webpages seemed slow – thus, the suggestion was given to improve the PES interface. It was recommended that the PES website be introduced to SSEZ companies.

8.2 KEY POINTS FROM SMARTPHONE USAGE SURVEY

The Task Team carried out a smartphone usage survey among 305 students (Savannakhet University, Xaysombath Technical College and Savannakhet TVET School). The survey included 138 female and 168 male participants.

Key survey statistics:

- 64.2% of the participants responded they have access to laptop/desktop computers.
- 65.6% of the participants responded they use their smartphones for searching information.
- 81% of the participants responded they use their smartphones for accessing Youtube.
- 100% of the participants responded they use their smartphones for accessing Facebook.

Key survey takeaways:

- Usage of smartphones among target student population is very high, indicating mobile application-based e-learning modules can be quickly adopted.
- Usage of social media among target student population is very high indicating linkages of e-learning modules with social media especially Facebook and YouTube, which are expected to be well accepted.

8.3 OVERVIEW OF DIGITIZATION AND ICT ISSUES

The Lao PDR ICT development took a bold step following the national ICT policy and plan (2015-2025) despite decades of experiences in communication services. Some e-platforms were established within the government such as the Laos Trade Portal, e-commerce, and e-banking.[43]

The ICT in education is set to be sustainable tools to promote effective and universal access to quality education.[44] The government launched an e-education project in 2010 to improve ICT infrastructure for education, quality of education services, education administration and management, as well as human resource development and capacity building. The highlighted outcome is the establishment of the ICT Centre in Ministry of Education and Sports (MOES). Recently COVID-19 has reinforced the need for the education sector to diversify the means and methods by which it delivers services. The government in 2020 approved the satellite TV to keep carrying on teaching e-learning as a new normal mode for education. The government tasked MOES to develop remote or distance learning modality with support from UNESCO's Capacity Development for Education (CapED) Programme.[45] More developments are expected for distance

learning that use ICT and digital equipment aimed at providing equitable access for students to learning resources. In a nutshell, the use of ICT-based platforms will only increase in importance in the future.

The main issue concerning digitization is that commercial sustainability limits coverage of rural remote users. At least 70% of the Lao population lives in rural areas. The use of ICT infrastructure and applications remains low in various sectors. Human resource development in ICT is unable to meet the demand of the society and the labour market, and there is lack of Lao language support in most of ICT systems, equipment, and applications which makes a limited extension to use or customize in a rapidly changing socio-economic environment that is being digitalized. The ICT industry is growing. However, there were only eight ICT education firms, nine digital content providers, 23 ICT consulting firms, and 48 software developers. Some 850 were ICT resellers.[46]

Like many other provinces in Lao PDR, five telecommunication companies (e.g., Lao Telecom, Unitel, Beeline, ETL, and Sky Telecom) operate in Savannakhet. The telephone/internet – 2G, 3G, and 4G networks cover 92.4 percent of the province. There are at least 696,000 users accessing to the network services. Telecommunication (through telephone) has declined as people have gradually used communication through the Internet.[47] While the ICT infrastructure has been developed and is easily accessible, the quality of the internet connection remains an issue – being slow and instable.

8.4 OPPORTUNITES AND CHALLENGES OF INTRODUCING AN E-LEARNING PLATFORM

Opportunities: The pre-feasibility study revealed several opportunities for implementing e-learning in Kaysone. Usage of smartphones among the targeted student population is very high, indicating mobile application-based e-learning modules can be quickly adopted. The tool is easily scalable and the potential reach through social media is highly achievable as 100% of the surveyed students uses their smartphone for Facebook. The e-learning platform proposed for the Phase 2 pilot project will be able to feature a motivating and engaging platform through gamification mechanics, where soft skills, not taught well in universities, are provided to job seekers. The aim is to help closing the gap between a demanding labour market and the skills which the students possess. International experts with best practices with help from local ICT experts will be able to develop the ideal e-learning solutions. The platform can be developed so part or most of it is accessible offline without internet connection.

Challenges: Not all students have access to computers. This could be a challenge, if the tool should be aimed towards both computer and smartphone applications. In Lao PDR, some students have older versions of iOS and Android, which could cause issues accessing the e-learning platform. This would be an issue

43 Source: http://www.cicc.or.jp/japanese/kouenkai/pdf_ppt/pastfile/h30/181030-04la.pdf
44 Source: https://www.slideshare.net/laonog/ict-in-education-57965832
45 https://bangkok.unesco.org/content/lao-pdr%E2%80%99s-ict-based-education-responses-covid-19

46 http://www.cicc.or.jp/japanese/kouenkai/pdf_ppt/pastfile/h30/181030-04la.pdf
47 Draft Five-year Socio-economic Development Plan of Savannakhet Province 2021-2025

in most countries. When linking the e-learning platform with the PES website, it should be considered that approval and PES willingness to cooperate is vital for a full implementation and workable linkages. A full implementation would include two-way linkages, where PES encourage the students to complete the courses in the SLP before applying for a job on their website. The quality of the internet connection remains an issue – being slow and unstable. This issue needs to be addressed and the e-learning platform should be considered to mostly provide offline available courses.

8.5 FORMATION OF SKILLS WORKING GROUP AND PROJECT IMPLEMENTATION UNIT

Section 1.2 of this report identified that there 4 group of stakeholders (government, educations institutions, job seekers and employers) who play a key role in making this project successful and sustainable. While job seekers are the primary beneficiaries of this project, the remaining three group of stakeholders need to take ownership of the project and provide coordinated inputs to ensure this project meets the requirements in terms of government policy, educational content and skills demand. The need for ownership and a coordinated approach has been recognized by the authorities. The Mayor's office of Kaysone Phomvihane city, during Stage 1 of this pre-feasibility, validated formation of two committees who will play significant role in the supervision and implementation of project activities in the upcoming Phase 2 pilot project. Section 1.2 expanded on the functions and members of both committees.

To ensure effectiveness of pilot project, the formation of a Skills Working Group and Project Implementation Unit will be needed. The Skills Working Group can be an adapted version of the already formalized Steering Committee. The Skills Working Group will play a key role in bringing together the government (policy makers), educational institutions (skills providers) and private sector companies (employers). The Skills Working Group will play a supervisory role in ensuring the project is implemented accordingly, that the private sector companies are able to directly communicate their need to the skills providers and that the content developed is relevant in the local context. Further the Skills Working Group will play a key role in recognizing and acknowledging the e-learning courses developed in the pilot to be mainstreamed in curriculum for university and TVET graduates. In addition to the Skills Working Group, the pilot shall also initiate the Project Implementation Unit (PIU). In earlier stages of the pre-feasibility, a PIU has been formalized. This needs to be revisited ensuring that Savannakhet University (SKU) host the PIU and offers collaboration with Savannakhet TVET college and Xaysombath college in developing content that can be used by students of both SKU and the vocational schools.

Source: ADB - Strengthening Technical and Vocational Education and Training Project in Lao PDR

PART B
PILOT PROJECT CONCEPT

1. SCOPE OF PILOT PROJECT

1.1 BACKGROUND

The concept of the pilot is based on the findings of the pre-feasibility report. The pre-feasibility study indicates an apparent labour skills supply-demand gap in Lao PDR, and specifically in Kaysone Phomvihane. As a country experiencing rapid urbanization and significant industrialization, the government is eager to extend its LMIS to mitigate the current mismatch of skills supply-demand gap.

There is a demand of hard technical skills, which are to a greater extent provided by universities and TVET schools. However, when considering soft skills (office etiquette, communication skills, teamwork, time management, etc.), training of these is not taught well by the education institutions. This creates problems on both ends – students lack confidence in applying for jobs and working after being hired, and employers cannot get the desired output from the new hires and have to provide additional training. These findings have been validated by direct interviews conducted with students and employers in the pre-feasibility stage.

Regarding using e-learning as a skill building tool, sample modules have been developed and showcased during the pre-feasibility stage to receive feedback from both employers and students. The concept has been well received in general. However, feedback on making the e-learning modules more local contextualised and accessible though mobile applications which can be used without internet was provided. This will be incorporated in the actual module development during the Phase 2 pilot project.

1.2 PILOT CONCEPT

In the proposed Phase 2 pilot, a Smart Learning Platform (SLP) will be developed for smartphones (iOS/Android), that will host different e-learning modules relevant to job seekers. The SLP will be linked with the PES website which is an integral part of the Lao PDR LMIS. The linkages are necessary as LIMS is used by private sector employers to post jobs. Therefore, job seekers will be able to access those job postings and can use the linked SLP platform that will have relevant e-learning modules to prepare them better for the job application. Job seekers will be able to directly assess the SLP and its contents from their iOS and android based smartphones.

The pilot will target to deliver a functional SLP Ver. 1.0 with up to 6 relevant e-learning modules (2D and 3D) that are adapted to local context. The platform will be tested underway in the development stage. Upon roll-out after the development stage, there will be a limited amount of user testing to ensure the scalability and usability of the system.

In addition, the Task Team will also develop a sustainability and scalability plan that will illustrate how the developed system can sustain on its own and can be potentially scaled across other provinces of Lao PDR, as well in other countries across the ASEAN region.

1.3 SMART LEARNING PLATFORM (SLP)

The Phase 2 pilot will develop a SLP which includes most proposed learning methods (see flowchart in Figure 5). Both the 2D e-learning video and game-based learning approach will be included. A survey completed for this study revealed that a majority of all surveyed students own and use a smartphone. This fact combined with the advantages of accessibility and limited internet requirement suggests that a smartphone approach is advantageous.

Figure 5: Smart Learning Platform (flowchart)

The overall idea is to develop an agile SLP including how-to videos and general 3D gamification tools and simulations to improve soft skills resulting in behavioral changes in an effective way. The modules will be divided into online e-learning and game-based learning (3D). These will be separate modules to ensure a diverse learning experience aimed towards the targeted learning outcome.

The platform (SLP) can be connected to the national recruitment platform Public Employment Service (PES).[48] The Pilot will indicate the various possibilities and potentials for connecting the platforms. The connection is enabled by directing the users to the PES website after completing the SLP learning modules. The bridging of the platforms is 2-sided, and the ambition is to be able to also access the SLP through the PES website.

Results from the feasibility survey suggest that all students surveyed uses Facebook and 81.3% uses YouTube. Therefore, the possibility to use to social media as part of the SLP will be developed. This will also form the basis of the monitoring and evaluation of the pilot activities as data recorded and tracked by the actual use of the tools.

48 https://www.pes.molsw.gov.la/index.php/en/component/users/?view=reset&Itemid=102

Smart Learning Platform (SLP) Ver. 1.0 features

The Smart Learning Platform Ver. 1.0 could include:

- **Connection to PES:** The SLP will be connected with a simple link to the PES website. The connection will allow job seekers to view jobs posted on PES and then by clicking on the link, they will be redirected to the SLP platform where they can undertake the e-learning modules relevant to the job they are applying for.
- **Providing soft skills not taught in Universities:** Lao PDR is currently experiencing one of the fastest rates of urbanization and industrialization in Asia and the labour market demands even more from the newly graduated workforce. The content and tools on the platform will address the mismatch between labour market demand and workforce skills mainly related to soft skills.
- **Agile learning features:** The modules developed for the platform will be short, engaging, and precise in the form of traditional e-learning, videos, and game-based learning.
- **Offline content:** The platform will, besides online features, also provide offline content.
- **Smartphone, easily accessible:** Due to the survey findings regarding high levels of smartphone usage among students in Kaysone, it is advantageous to provide accessibility to the SLP via a smartphone application. It is essential for the users to have internet/wifi access, when they use the app. The 2D e-learning videos will be downloaded in real-time when users want to access these learning modules. The Android and iOS devices must meet a minimum version requirement.
- **Possibility to connect to well-know, already existing social media:** Connecting to social media will utilize already existing advantages and form a familiarized experience using the SLP – the pilot project will provide a proof on how possible it is to link the SLP to social media platforms
- **Recording user data and tracking process:** Overall user data will be recorded for analysis and improvements of the tools as part of the evaluation of the pilot. Likewise, data is needed from the participating employers on the improvements they see in the preparedness of job seekers. Further, it would be possible for the students/future employees to track their own process and progress.
- **3D learning game apps:** User controlling will be tested during pilot implementation having a high focus on how the users will interact with the game.

The SLP is proposed as part of the Phase 2 pilot to host a total of 6 modules – 2 animated 2D-videos, 2 non-animated 2D-videos, and 2 gamified 3D-videos.

E-learning methods and gamification mechanism proposed could include: (i) Quizzes, (ii) Progress bar, rewards, score, levels and storytelling, (iii) Interactive videos (both 2D and 3D), (iv) How-to and training videos, (v) Nudging (follow footsteps, arrows, or mini maps in a virtual simulation), and (vi) Instant feedback.

Feedback gathered from job seekers and employers indicated the following soft skillsets should be focused on to be delivered through e-learning in the pilot project. The inputs from these two groups of stakeholders are outlined in Section 4.2 and 8.1 of Part A (Pre-feasibility report). Table 14 further outlines the different e-learning methods and gamification approaches that will be used to enhance these soft skills. Although presented separately in the bullets below, these soft skills are not considered distinct from each other. For example, problem solving skills and creative thinking are interconnected, as are intra-/inter-personal skills and communication to teamwork.

Table 14: E-learning methods and gamification approaches

Types of Soft Skills	E-learning delivery methods
• Problem Solving • Creative Thinking • Teamwork • Decision-making • Intra-/inter-personal skills • Communication skills	"How to" training videos Interactive 2D videos Interactive 3D videos/ Gamification & simulation Quizzes with Scores

1.4 IMPLEMENTATION ARRANGEMENTS

A Skills Working Group and Project Implementation Unit will be formed at SKU. The Skills Working Group is an adapted version of the already formalized Steering Committee, bringing together the government (policy makers), educational institutions (skills providers) and private sector companies (employers). In addition to the Skills Working Group, a Project Implementation Unit (PIU) is to be established at SKU with collaboration with Savannakhet TVET college and Xaysombath Technical College.

The e-learning platform will be anchored at the SKU ICT Center where content for the modules will be developed and testing of the platform and modules will take place.
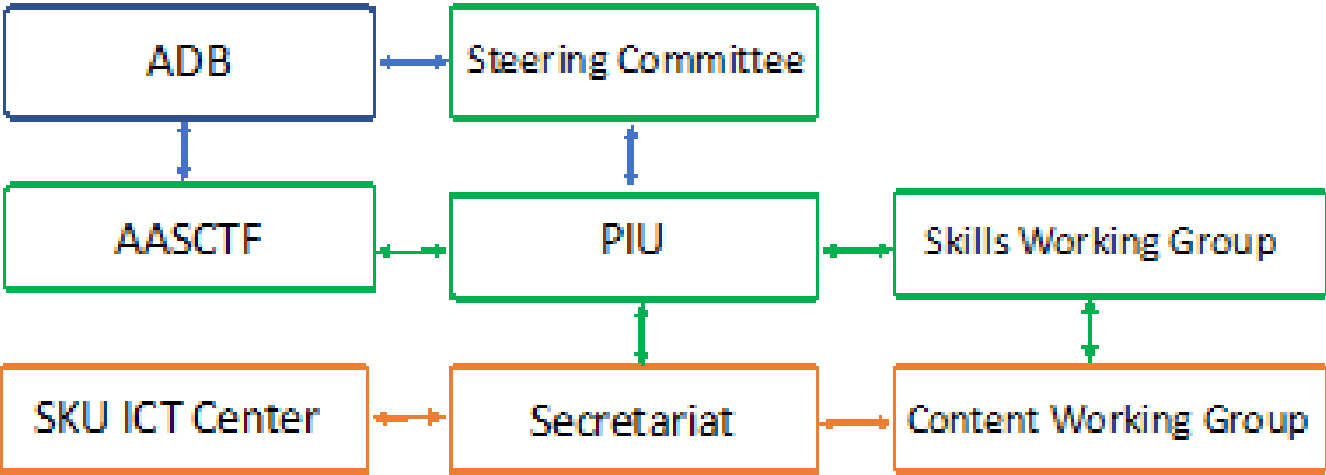
Figure 6: Institutional arrangements/project organisation

It has further been agreed that the newly appointed Mayor will issue a letter to the key local government agencies to facilitate the implementation of the pilot project. The implementation arrangements (Figure 6) include:

- Executing Agency: ADB
- Project Steering Committee: Mayor and Kaysone City Office, SKU, and representatives from participating private sector firms. Compared to the "Skills Working Group" The Project Steering Committee is composed of higher-level management in the participating organizations.
- Implementation Agency: Project Implementation Unit at SKU which will include the Secretariat, the SKU ICT Center and the Content Working Group
- Skills Working Group: Composed of representatives from the participating firms, and the educational institutions. The purpose of the working group is to define the needed skills, and to agree on the content on the gamification/e-learning tools.

Following individual consultation with private sector firms who have also participated in the preparatory workshops under the feasibility study, the following have ensured their commitment to participate to the project and have assigned responsible staff to be members of the 'Skills Working Group":

Table 15: Members of the 'Skills Working Group'

No.	Name of Company	Sector	Assigned staff	Contact Details
1	Savan Logistics	Dry Port	Mr. La	020 22300218
2	Mitsuzu Lao	Electronics	Mr. Leo	020 59316868
3	Tiong Nam	Logistic7s	Mr. Bounapha Chanthakhot	020 78955654
4	Celestica	Electronics	Mr. Phuod	020 54167965
5	Savan Park	Management	Ms. Souksavanh Thikeo	020 28381019

The Task Team composed of international and local experts will provide guidance to the Skills Working Group and support the PIU to implement the activities of the project. Prior to the development of SLP, linking of PES and development of e-learning modules, the team will continue the consultation with both job seekers as well as private sector companies, to define the scope and content of the modules.

1.5. SUSTAINABILITY/SCALABILITY

The measuring of the improvement of skills in job seekers is considered an essential part of the implementation of the pilot. This is important not just for sustainability/viability of pilot (assessing economic benefits for employers in terms of cost cuts – less inhouse training and less turnover of staff) but also for the enhancement of the job seekers skills. The measuring of the learning/improvement will be carried out throughout the pilot from both the demand and the supply side.

The evaluation of the change among students/job seekers are expected to be carried out with (i) "self-assessment" tools showing improvements in specific soft skills, and (ii) by the user data collected through the usage of the gamification/interactive games. It's important that a baseline is defined prior to the roll-out, but also that data is collected and analyzed throughout the piloting and not just at the end. The participating employers will also be asked to assess and evaluate the perceived improvement of soft skills among newly graduates and job seekers. The information from the employers will make it possible to distinguish between newly recruited employees who have used the gamification/e-learning tools, and those who have not.

2. SCHEDULE

Below is an initial schedule to execute the activities proposed in the pilot project.

No.	Activites for pilot phase
0	**General on-going tasks (not full-time work)**
0.1	DK Dev. team project management
0.2	Local project management
0.3	Skill identification and soft content development
1	**Pilot phase - Start-up phase**
1.1	Overall mobilization and planning
1.2	Set up and formalization of Skills Council
1.3	Set up and formalization of Soft skills content Council
1.4	Set up of Project Implementation Unit at SKU ICT Center
1.5	Establishment of baseline and project KPIs
1.6	Validate e-learning content development from inputs by industry employers
1.7	Define target group of graduates/ job seekers from SKU and TVETs
1.8	Presentation of scope of pilot, institutional set-up, selected industries and user same size to local stakeholders
1.9	Dialogue with PES homepage organization.
1.10	Local GDPR/Data security rules (follow-up)
1.11	Create plan for workshops and user test in the mockup and prototype phase
1.12	Ongoing content creation start-up
DG-1	**DECISION GATE 1**: Project Inception Workshop with stakeholders on confirmed implementation arrangements and next phase kick-off.
2	**Pilot phase - Smart Learning Platform***
2.1	**Core app main menu (smartphone)**
2.1.1	Planning and designing
2.1.2	App development (Mockup, prototype, UI, UX etc.)
2.1.3	Backend and databse, API/SDK
2.1.4	User test + review/presentation
2.1.5	Finalizing product
2.1.6	Link to PES website testing
2.1.7	Wrap-up report
2.2	**3D learning app game - Office environment**
2.2.1	Planning and designing
2.2.2	App development (Mockup, prototype, content, storyboard, UI, UX, Gamification etc.)
2.2.3	User test + review/presentation
2.2.4	Finalizing product
2.2.5	Wrap-up report
2.3	**3D learning app game - Industrial environment**
2.3.1	Planning and designing
2.3.2	App development (Mockup, prototype, content, storyboard, UI, UX, Gamification etc.)
2.3.3	User test + review/presentation
2.3.4	Finalizing product
2.3.5	Wrap-up report
2.3.6	Workshop with core implementation partners on progress of activities.
2.4	**2D non-animated E-learning videos for office & Industrial (local video production)**
2.4.1	Planning and designing with local video production team
2.4.2	E-learning film production/development (local production team)
2.4.3	User test + review/presentation
2.4.4	Finalizing selected e-learning video products
2.4.5	Wrap-up report
2.5	**2D animation E-learning videos for CV & Interview (local production)**
2.5.1	Planning and designing with local video production team
2.5.2	E-learning film production/development (local production team)
2.5.3	User test + review/presentation
2.5.4	Finalizing selected e-learning video products
2.5.5	Wrap-up report
DG-2	**DECISION GATE 2**: SLP and e-learning modules demo workshop with core implementation partners.
3	**Wrap-up –Smart Learning Platform (SLP) Implementation**
3.1	Roll out of overall handover strategy and prepreration
3.2	Roll out of 2D e-learning video app modules
3.3	Roll out of Smart learning platform + learning modules
3.4	Workshop to launch SLP and learning modules
3.5	Monitoring of 2D e-learning videos in first step, and after the SLP platform with all modules
3.6	Sustainability and Scalability Analysis of system developed
3.7	Capacity Development
3.8	Project Completion Workshop - Findings of Pilot and Final Handover
3.9	**Decision Gate 3** - Pilot Completion Report

The schedule spans Month 1 through Month 14, each divided into weeks W1, W2, W3, W4.

* Commencement of Phase 2 is subject to the satisfactory completion of Phase 1 and achievement of DG-1.

3. STAFFING

The following team composition is proposed for the pilot project (excl. core team inputs). As of now type of experts have been identified. Staffing of these positions will be filled in the Task Order for Phase 2.

Table 16: Proposed non-core team composition for the pilot project (tentative)

Position	Proposed seniority level	Proposed person-months
International Expert		
Task Team Leader		5.0
Software Developer		4.0
Sever/Appstore Developer	Senior	0.5
Legal (data security, Appstore protocols etc.)		0.2
Soft Skills Content Development/Education Specialist		2.0
Capacity Building Specialist		2.0
Lead App & Gamification Designer		5.5
UI/UX expert	Mid	1.0
GESI Specialist		2.0
App & Gamification Designer		5.5
M&E Expert	Junior	3.0
Video Production Specialist		1.5
National Expert		
Senior Education Specialist		6.0
Software Engineer		4.0
Network Engineer		4.0
Social Media Integration Specialist		4.0
E-learning Video Production Specialist	Senior	3.0
Animation Specialist		3.0
Financial/Economic Expert		2.0
Human Resources Specialist		3.0
Soft Skills Content Development Specialist		4.0
M&E Expert	Junior	2.0
Project Coordinator		14.0

Source: ADB - GMS East-West Economic Corridor in Lao PDR

4. GESI FRAMEWORK

Table 17: GESI Framework

Task Order / City Intervention Outcome: Fully operational SLP with matching tools and e-learning modules for Kaysone Phomvihane developed and launched.			
Actions / Activity	**Responsibility**	**Timeframe**	**Performance Indicators/Targets**
GESI Mainstreaming			
All meetings/workshops/FGDs will aim to be held in universally accessible premises with, with timing for events and meetings to be gender-sensitive, recognising that outside normal business hours may not be suitable for GESI focus groups and depending on the context, consulting to ensure the optimal time to maximise participation is chosen.	TO Team Lead GESI Expert (Int) HR Specialist (Nat) Project Coordinator (Nat)	Throughout TO	• Meeting minutes, including participant lists (allowing tracking of organisation and gender) to be maintained. • # and % of GESI focus group members involved and/or consulted in implementation.
All Outputs developed should be checked over accessibility / inclusivity of content (at a minimum using Word/PDF Accessibility Checker), with priority on those that will be published for public access.	TO Team Lead GESI Expert (Int) HR Specialist (Nat) Project Coordinator (Nat)	Throughout TO	• Target: Accessible/Inclusive content and output production.
Output 1: E-learning & gamification tools developed **1 Core Smart Learning Platform (SLP) developed and integrated with PES** **6 E-Learning Videos, 3D simulations modules developed and hosted on SLP**			
Include GESI focus groups and representatives in consultations / workshops, with prospective job seekers on design and development of e-learning modules/PES.[49,50,51] Consultation will aim to: • Verify the GESI focus groups identified in the Pre-Feasibility Study. • Validate key findings on GESI challenges, needs and opportunities established in Pre-Feasibility Study as a key input into design and development of modules that better meet GESI needs. • Seek input into design / development to foster inclusivity and accessibility, including - design assumptions, relevance, user interface, additional assistance / guidance / support needs.[52]	TO Team Lead GESI Expert (Int) HR Specialist (Nat) Project Coordinator (Nat)	Stage 1 and 2	• # and % (of total people consulted) of GESI focus group members consulted/ involved in design and development of e-learning. • Target: gender balance in consultation and 20% of consultation participants from GESI focus groups. • Qualitative data (from consultation) generated and used in e-learning development (subjects, learning methods, etc). • Target: GESI-focused module(s) and/or content as part of module package.
Consultations/workshops with employers (from Savan-Seno Special Economic Zone and PCCI).[53] Develop GESI questions/themes for discussion to obtain feedback on: • Data on current employment of GESI focus groups by employers. • Barriers/challenges and opportunities for employment of GESI focus groups. • Topics/skills that may be targeted through the e-learning modules that would allow GESI focus groups to better meet employer requirements.	TO Team Lead GESI Expert (Int) HR Specialist (Nat) Project Coordinator (Nat)	Stage 1 and 2	• Target: GESI-specific feedback from potential employers is built into e-learning, increasing the possibility of e-learning fostering job market opportunities for GESI focus groups.
Develop and test e-learning modules and integrate those with the PES website. • Testing to include participation of GESI focus groups, and include testing of modules themselves, and access / usability of PES website.	TO Team Lead GESI Expert (Int) HR Specialist (Nat) Project Coordinator (Nat)	Stage 1 and 2	• # and % (of total testing participants) from GESI focus group members consulted/involved in design and development of e-learning. • Target gender balance in testing and 20% of testing participants from GESI focus groups. • GESI-related feedback incorporated into e-learning modules revisions.
Output 2: Institutional arrangements supporting improved labour market matching **(500 students/job seekers accesses SLP-PES platfrom and uses e-learning modules)**			
Organise consultations/workshops with relevant government offices/employment agencies, and job seekers. • Conduct targeted consultation with GESI representative organisations to disseminate to GESI focus groups. • Develop tailored awareness materials /guidance (online and physical) on launch/use of e-learning modules and disseminate to GESI focus groups / representatives, government department and agencies. • PES website usability and accessibility to be considered.	TO Team Lead GESI Expert (Int) HR Specialist (Nat) Project Coordinator (Nat)	Stage 3	• Target: Targeted inclusive materials to disseminate/raise awareness and provide guidance on e-learning. • # of GESI representatives organisations/institutions/stakeholders engaged through consultations activities to market e-learning modules/pilot study. • Target feedback from participants from GESI focus groups. • Collect qualitive case studies/stories describing participants experience achievements/expectations/feedback on e-learning modules to add lived experiences in AASCTF publications.
Output 3: Sustainability and Scalability Action Plan delivered (Ownership of SLP ensured)			
Obtain feedback from private sector employers, SKU, TVET schools and government through interviews and / or surveys to understand: • Potential cost/benefit of using SLP-PES integrated e-learning modules to each stakeholder. • Availability of own funds to contribute to maintain such platforms in future.	TO Team Lead Deputy Team Leader (Nat) Project Coordinator (Nat) Financial/Economist (Nat)	Stage 3	• Target feedback from participants from GESI focus groups. • Collect qualitive case studies/stories describing participants experience achievements/expectations/feedback on e-learning modules to add lived experiences in AASCTF publications.
Collect disaggregated data on access to and use of e-learning by GESI focus groups (incl. participation rates, completion rates, dropout rate etc.).	Deputy Team Leader (Nat) Project Coordinator (Nat)	Stage 3	• Target access and use data to be disaggregated by GESI focus group (through voluntary participant information section as part of registration / access).
Outcome: Fully operational SLP with matching tools and e-learning modules for Kaysone developed and launched.			
Emerging evidence available that E-learning modules addresses GESI focus groups needs in relation to skills development and employment.	Core Team TO Team Lead GESI Expert (Intl)	Stage 2 and 3	• Feedback/qualitative stories from engagement with GESI focus groups/ representatives on success/improvements. • Feedback from City Government/Labour market employers' representatives. • Collate user data from above qualitative and quantitative data collected.

49 GESI focus groups established during the Pre-Feasibility were found to be: Disadvantage youth / students experiencing poverty; Women (particularly mothers, women experiencing poverty); Students living with disabilities.
50 NGOs / student representative organisations working with marginalised and vulnerable groups.
51 Public Employment Service (PES) is the Lao PDR government website used to promote vacancies in various companies and executing labour market policies used to help workers enter the labour market.
52 Approaches that may be used in content development and app design to be more inclusive include working with GESI groups (using methods that they identify as meaningful) to review design assumptions, accessibility, interfaces.
53 Savannakhet Chamber of Commerce and Industry (SCCI) is an independent organisation representing business members in the Savannakhet province and acts as a link between state agencies and the business community.

5. DESIGN AND MONITORING FRAMEWORK

Table 18: Design and Monitoring Framework (Draft)

Impacts the Project is Aligned with			
Graduates and job seekers from higher education institutions and TVET schools in Kaysone Phomvihane are better prepared for the labour market.			

Result Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
Outcome			
Fully operational Smart Learning Platform and e-learning modules for Kaysone Phomvihane developed and launched.	• Private sector employers involved in the project report XX% in reduced staff turnover • Private sector employers involved in the project see improvement in soft skills among new recruits	• Employer surveys • Stakeholder surveys	• Lacking capacity and buy-in from SKU ICT center • Not enough job seekers who undertook the e-learning modules are hired by private sector
Outputs			
▷ E-learning & gamification tools developed	• Functioning Core Smart Learning Platform linked with the PES website • Six (6) E-Learning Modules (2D/3D Videos) developed and hosted on the SLP	• SLP system and website traffic data	• Interest and engagement of students and graduates to actually use the tools
▷ Institutional arrangements supporting improved labour market matching	• 500 graduates/job seekers access the SLP to complete the e-learning modules and record change in behaviour/understanding	• User data • Student surveys	• Number of users does not become large enough to properly assess whether the tool serves its targeted purpose
▷ Sustainability and Scalability Action Plan developed (Ownership of SLP ensured)	• Staff and funds allocated to manage SLP system. • Commitment from public and private sector	• Staff record and organigram • Gap Analysis	• Lack of incentive/ mandate of staff to support and dedicate adequate time to the project. • Inadequate resource availability from public and private sector

Source: ADB - Strengthening Higher Education Project in Lao PDR

ABOUT THE ASEAN AUSTRALIA SMART CITIES TRUST FUND

The ASEAN Australia Smart Cities Trust Fund (AASCTF) assists ASEAN cities in enhancing their planning systems, service delivery, and financial management by developing and testing appropriate digital urban solutions and systems. By working with cities, AASCTF facilitates their transformation to become more livable, resilient, and inclusive, while in the process identifying scalable best and next practices to be replicated across cities in Asia and the Pacific.

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