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USAID-LMI CONNECTING THE MEKONG THROUGH EDUCATION AND TRAINING

FINAL REPORT

SEPTEMBER 2019

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ACRONYMS

ASEAN	The Association of Southeast Asian Nations
CLA	Collaborating, Learning, and Adapting
COR	Contract Officer Representative
DUE	University of Economics – The University of Danang/Danang University of Economics
FY	Fiscal year
GYES	Graduate Youth Employment Survey
HCMUTE	Ho Chi Minh City University of Technology and Education
HUEIC	Hue Industrial College
HUST	Hanoi University of Science and Technology
ITC	Institute of Technology Cambodia
LANITH	Lao National Institute of Tourism and Hospitality
LM	Lower Mekong
LMI	Lower Mekong Initiative
LOP	Life of project
M&E	Monitoring and Evaluation
MLC	Mekong Learning Center
MPI	Mekong Partner Institution
MS2W	MekongSkills2Work
MTC	Maptaphut Technical College
MU	Mahidol University
NUOL	National University of Laos
PD	Professional development
STEM+AT	Science, Technology, Engineering, Math, Accounting, and Tourism
STTA	Short-term Technical Assistance
TOT	Training of Trainers
TVET	Technical Vocational Education and Training
UD	The University of Danang
USAID-LMI COMET	USAID-LMI Connecting the Mekong through Education and Training
USAID RDMA	USAID Regional Development Mission for Asia
USEA	University of South-East Asia
USG	United States Government
UTYCC	University of Technology (Yatanarpon Cyber City)
WBL	Work-based learning

EXECUTIVE SUMMARY

On October 6, 2014, USAID and the US State Department's Lower Mekong Initiative (LMI) launched the USD $12.4M Connecting the Mekong through Education and Training (USAID-LMI COMET) project, its flagship workforce development initiative, working with youth, universities and vocational schools, and industries in Cambodia, Laos, Myanmar, Thailand, and Vietnam.

The project harnessed the use of online learning platforms to increase the number of skilled workers in ASEAN through targeted priorities in science, technology, engineering, mathematics, accounting, and tourism (STEM+AT) in the Lower Mekong sub-region.

Over the life of the project, **USAID-LMI COMET improved the skillsets of nearly 66,000 current and upcoming workers in STEM+AT fields**, leveraging information and communication technology (ICT), and strengthening the quality and reach of vocational trainings and education courses.

To prepare a pipeline of skilled workers for the innovation economy, USAID-LMI COMET provided education and training institutions with new skills to adapt to changing labor markets. These key skills included creative problem solving, analytical thinking, lifelong learning, communications, and teamwork. This also included project-oriented learning and work-based learning, among several other approaches in the project's toolkit, called the '*Sourcebook*[1]', in order to allow learners to build the hybrid skills needed to successfully transition to work.

Working closely and directly with post-secondary learning institutions, the USAID-LMI COMET project built, broadened, and deepened their collaboration with industry partners, creating more bridges to connect young, innovative, and capable learners with the economy. Through the project, key stakeholders co-designed systems, using an adaptive management approach called collaborating, learning, and adapting (CLA), to ensure that innovation in teaching and learning is embedded and continuously improved, creating an approach that continuously fosters the skills youth need in order to thrive in the current and changing labor markets.

To further support sustainable economic growth and improved capacity that could go to scale, the project built a regional **Mekong Skills2Work (MS2W) Network**, made up of 12 universities and technical vocational institutes. This MS2W Network, and other institutions supported by the project, comprises over 1,000 trained instructors that are now equipped with:

- Improved *pedagogical* methods,
- *Project-oriented, work-based learning*, and other approaches in the Sourcebook, and
- Improved capacity to implement practical *innovation challenges* and other structured creative problem-solving activities.

[1] USAID-LMI COMET's Sourcebook is Education Development Center (EDC)'s set of 12 evidence-based instructional improvement tools, bringing new pedagogical approaches and job readiness content to universities and vocational training institutions. The materials support learners in acquiring job-focused technical and soft skills which have been demanded by employers.

After 5 years of USAID-LMI COMET's implementation, the project has proven, through quasi-experimental impact assessments, to have provided **6,000 graduates with new or better employment as a result of the intervention**; 91% of students participated in improved internships and 1,000 instructors increased their ability to apply new teaching techniques in the fields of STEM+AT. To magnify these gains, the project leveraged over USD $8M from public-private partnerships with Cisco, Google, Intel, Amazon, Texas A&M, and other companies.

The project's curriculum development and skilled workforce portal, called the MS2W Network Portal, was developed in the project's second year (FY16) providing support to youth, instructors, and the private sector. The MS2W Network Portal is now sustainably housed and supported by The University of Technology Yatanarpon Cyber City (UTYCC), who will manage and provide online courses for MS2W Network members and other beneficiaries in the future. The MS2W Network portal will continue to be instrumental in creating meaningful impact with instructors, businesses, and students in the Lower Mekong sub-region.

At a final budget of USD $10,870,989, the project successfully managed to reach all contracted targets (see the Performance Monitoring and Evaluation Plan[2]) and objectives.

[2] Revised October 26, 2017 and approved by USAID.

THE JOURNEY BEGINS

In the Lower Mekong Initiative (LMI) partner countries (Cambodia, Laos, Myanmar, Thailand, and Vietnam), workers with in-demand skills are highly sought by local employers, but in short supply.

To truly reap the benefits of ASEAN economic integration, the Lower Mekong sub-region needs to improve the skills of the workforce to match the requirements and trends of the labor market.

The USAID-LMI COMET story is about the LMI countries' quest for skilled labor parity within ASEAN and the LMI's journey towards economic self-reliance.

GOALS OF THE JOURNEY

The USAID-LMI COMET project, through the regional **MekongSkills2Work (MS2W) Network**, improved the global competitiveness of the Lower Mekong sub-region by increasing the number of workers with in-demand skills.

The Network connected **youth, universities, vocational institutions, and industry partners** in the Lower Mekong sub-region to revamp science, technology, engineering, mathematics, accounting, and tourism (STEM+AT) education to match with market needs.

USAID-LMI COMET's theory of change is presented in Annex I.

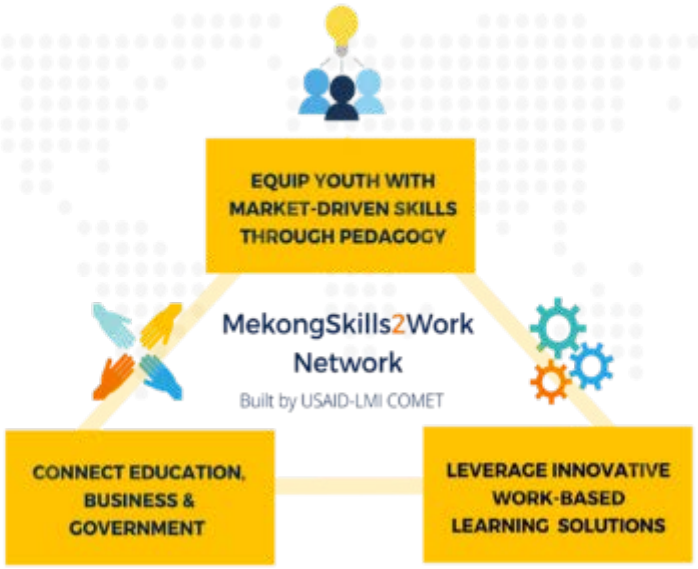


Figure 1: The MekongSkills2Work (MS2W) Network model, powered by USAID-LMI COMET project

MEKONGSKILLS2WORK NETWORK'S FIVE-YEAR JOURNEY

Evolutionary model through evidence-based decisions

BEGINNING OF THE JOURNEY

EN ROUTE

NEAR DESTINATION

I. BEGINNING OF THE JOURNEY

MAPPING THE JOURNEY

To achieve the project's goal, USAID-LMI COMET strengthened capacity of individuals and educational institutions through several interventions based on three main components:

1) Curriculum development and skilled workforce portal
2) Training today's workforce (vocational level)
3) Developing tomorrow's leaders (higher education level)

SCOPING THE LANDSCAPE

The project invested in the Labor Market Assessments of the Lower Mekong sub-region to understand key economic growth sectors and skill gaps. The data from the analyses were used to design the most targeted interventions to improve critical skills in demand.

TESTING THE MODEL

The project focused initially on 'testing and adapting the model.' The 'model' refers to a framework to enhance student learning and work-readiness skills in post-secondary education institutions through training instructors.

The project developed a series of pilot activities with 5 Education Advisory Institutions (EAIs) and private sector technology partners, each intended to gather initial data that the project team could use to design effective, efficient, sustainable, and scalable interventions.

The program model maintained flexibility throughout the life of the project so that new development opportunities could be tested and integrated into the model as deemed valuable.

MAP OF MEKONG LEARNING CENTERS

II. EN ROUTE

COLLABORATING, LEARNING, AND ADAPTING

Building on the best practices from the EAIs, the project established 12 **Mekong Learning Centers (MLCs)** in Year 2 as a cohort of lead institutions trained on the USAID-LMI COMET's model, known as the **'MekongSkills2Work' (MS2W) model.** And through the MLCs, the project initiated relationships with local governments and private sector partners who later became key stakeholders of the MS2W Network.

Based on lessons learned from MLCs and discussions with USAID RDMA, in Year 3 the project **shifted the emphasis away from expanding** to new education institutions to deepening the MS2W approach within existing MLCs in sustainable pathways.

Over the course of the project, the project collaborated within and between different MLCs, learned from the results, and adapted various program components, namely:

BEGINNING OF THE JOURNEY

INSTRUCTOR PROFESSIONAL DEVELOPMENT

- Adapted the **MS2W Sourcebook: A Guide for Facilitators** from a prescriptive work-readiness curriculum to standards-based toolkits that allow for instructors to adapt and incorporate selected 21st century skills into their classrooms.
- Developed **online courses** and **certification frameworks** to train Master Trainers to further expand the model in their institutions.

PARTNERSHIPS

- Collaborated with prominent multinational corporations such as

to leverage technology and innovative instruction in classrooms and in the project's strategic areas such as innovation and gender.

- Introduced the **Work-Based Learning toolkit** to help MLCs link with local businesses and increase students' work-readiness skills and experiences.

EN ROUTE

INNOVATION

- Led the implementation of the **Young Southeast Asian Leadership Initiative (YSEALI) World of Food Innovation Challenge** in partnership with Cisco, Intel, and National Instruments, paving the way for the innovation track of the project.
- Utilized lessons learned from the **YSEALI World of Food Innovation Challenge t**o partner with Texas A&M University to pilot institutional innovation challenges in 5 MLCs.
- Based on the feedback of the pilot, **expanded the innovation challenge approach to all MLCs** and developed an **Innovation Challenge toolkit** to increase project-based learning through solving real-world problems: increasing both private sector involvement and youth engagement simultaneously.

YOUTH ENGAGEMENT

- After being engaged in the Institutionalization by Design workshop, the youth felt empowered to take a stronger leadership role in their institutions and asked for MS2W trainings tailored for them. This was the start of the network of **Skills2Work Youth Representatives (MS2W Youth Reps).**
- Co-created **Pilot Youth Creative Collaboration Workshops** with 11 Youth Reps in 4 MLCs to pilot approaches to engage students: for youth, with youth, and by youth.
- Developed the **Youth Skills2Work Toolkit** based on the feedback from the pilot activities - helping enable Youth Reps to implement their own youth-led career readiness events for their peers.

NEAR DESTINATION

BEGINNING OF THE JOURNEY

EN ROUTE

NEAR DESTINATION

III. NEAR DESTINATION

INSTITUTIONALIZATION

The project further strengthened the competencies of the MLC instructors and administrative systems required to support scaled change within the MLCs and to set the stage for significant quality, ownership, and sustainability.

EXPANSION & TRANSITION

The **MS2W model has also been adopted nation-wide in Myanmar,** with UTYCC leading the expansion of the instructor professional development training to over 20 universities.

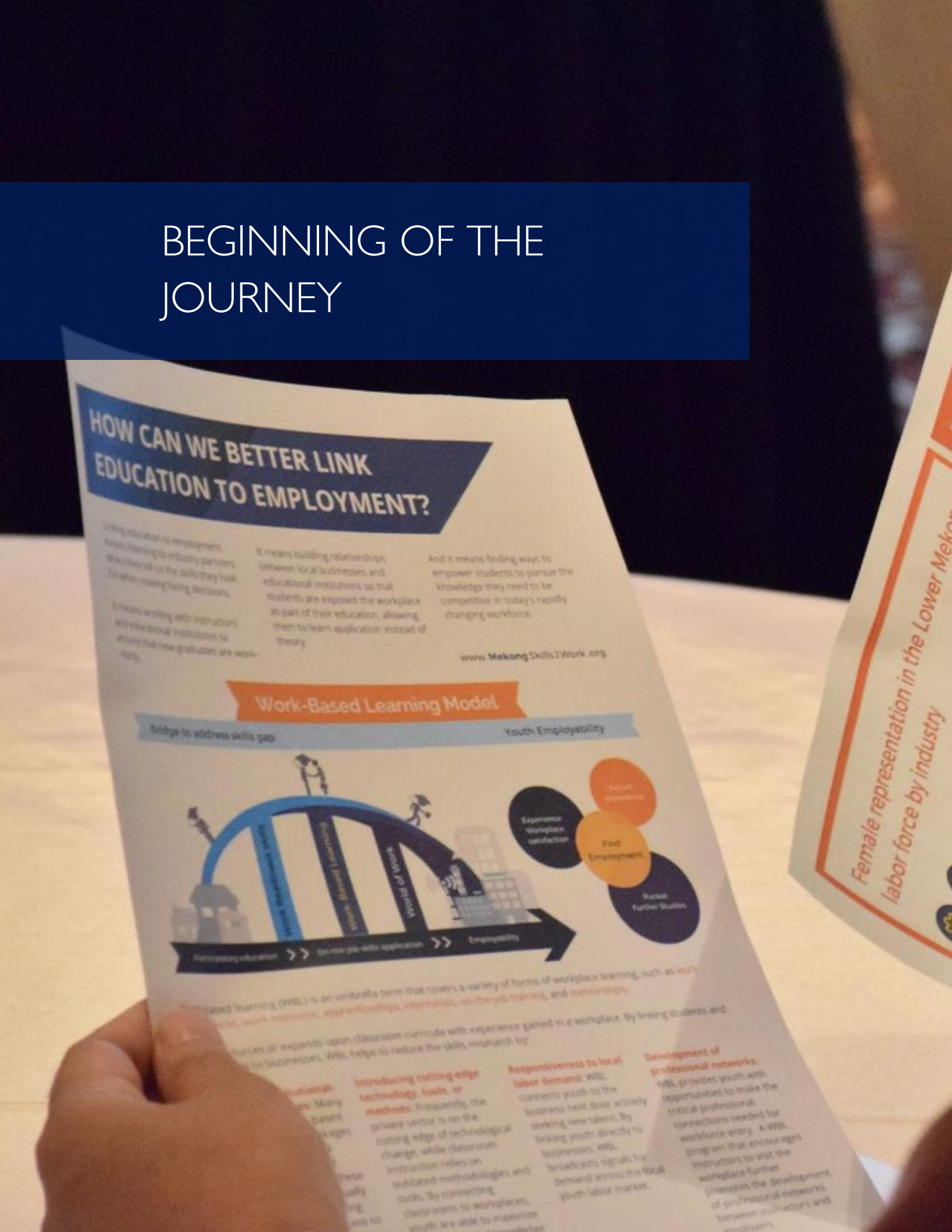
Before phasing out, the project ensured that its most valuable asset – the MS2W model – would be sustained through the **transfer of the MS2W Network portal to two partner universities: UTYCC (Myanmar) and DUE (Vietnam)** for the long-term benefits of the MS2W Network members and other institutions in the region.

> *The MekongSkills2Work model of professional development has been adopted in Myanmar, nation-wide!*

The main support role was gradually handed over from the project team to the MLCs. Three **expert teams – professional development, work-based learning, and innovation** – were established to take responsibility for training, coaching, and supporting the members at a regional level. Expert team members received further training in their selected skill areas, preparing them to take on the support and supervisory roles. The project then supported expert teams in coaching and mentoring other institutions in the network.

Over the course of five years, the project built a regional network of 12 post-secondary educational institutions in partnership with a multitude of private sector partners, equipping nearly 66,000 youth with market-driven skills to thrive in the world of work. The MS2W model continues, on a journey to self-reliance.

BEGINNING OF THE JOURNEY



MAPPING THE JOURNEY TOWARD SELF-RELIANCE

Promoting self-reliance is a cornerstone of USAID's Transformation efforts on ensuring that the programs implemented best support a partner's journey to self-reliance. This means that USAID projects should seek ways to strengthen the partner's commitment and capacity to plan, finance, and implement solutions to solve its own development challenges, once foreign assistance terminates.

Although the ultimate vision of the USAID-LMI COMET project was to improve economic integration and global competitiveness of the Lower Mekong sub-region, the project's primary goal and scope of work was to empower and connect businesses and faculty members in partner education institutions - to increase the number of skilled and work-ready youth that can thrive in the labor market.

The project's five-year journey was applied to the individual and institutional levels of self-reliance – the foundational steps before national level of self-reliance.

Through the regional MekongSkills2Work Network, the project helped individuals and institutions embark on their Journey to Self-Reliance through several intervention tracks based on three main components:

The purpose of the first component was to develop an interactive online portal that houses training programs, promotes regional networking, and shares job forecasting information for the LMI partner countries. The second component provided regional training and technical assistance to vocational centers engaged in STEM+AT. The third component helped to strengthen the delivery of courses under the STEM+AT umbrella at higher education institutions. In practice, the second and the third components were combined and implemented in the grant program with MLCs.

SCOPING THE LANDSCAPE

To fully understand key economic growth sectors and explore market needs for targeted solutions in the Lower Mekong sub-region, the project supported labor market analyses including job forecasting in the Lower Mekong countries. Data from the analyses informed the project design, interventions and implementation aiming to achieving the overall objective of improving the workforce in the sub-region.

USAID-LMI COMET collaborated with Mahidol University's Institute for Population and Social Research (IPSR) to conduct Labor Market Assessment (LMA) studies in the Lower Mekong countries. Together, they published three Regional LMAs, in 2015, 2016, and 2017.

The data from the study then informed the core directions for USAID-LMI COMET activities, focusing on the most targeted interventions to improve critical workforce skills.

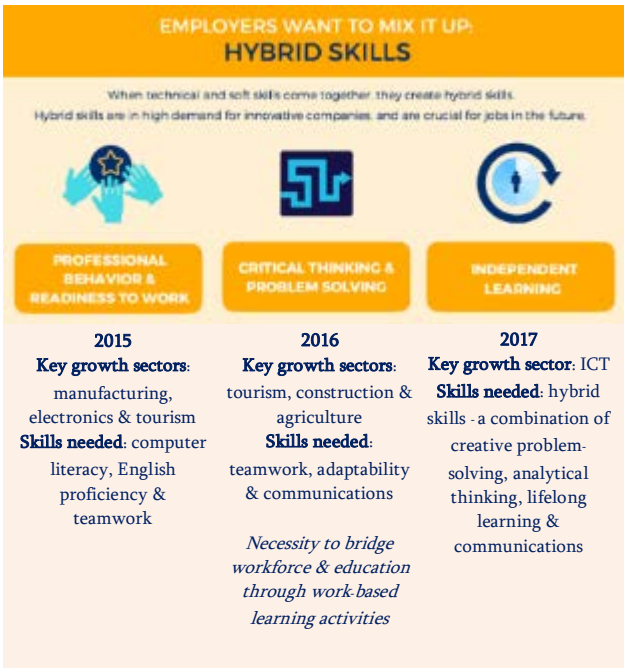
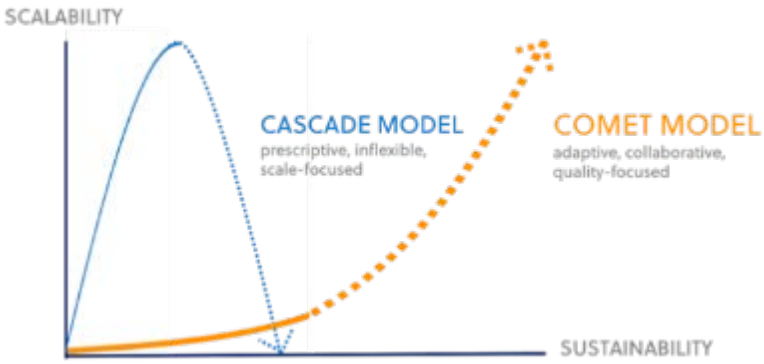


Figure 2: Key Findings from the Labor Market Assessments

EN ROUTE

COLLABORATIVE AND ADAPTIVE JOURNEY TO SELF-RELIANCE

USAID-LMI COMET integrated **Collaborating, Learning, and Adapting (CLA)** approach from the start and throughout project implementation that led to a revised, effective model focusing on key quality factors essential for sustainable change – the **pathway to self-reliance.**



USAID-LMI COMET was initially designed around a traditional cascade approach focused on rapid expansion (scalability or breadth). The application of CLA approach produced insights that led to a revised model with an emphasis on ensuring that partner institutions have the necessary knowledge, training skills, and confidence to institutionalize the MekongSkills2Work model within their respective institutions – and ultimately sharing it with others outside of the current MekongSkills2Work Network.

There are a number of cases where CLA played a significant and influential role in shaping the way the project designed, implemented, and pivoted the programs to better suit the needs of beneficiaries and their contexts.

PATHWAYS IN THE JOURNEY

The USAID-LMI COMET project designed a framework of integrated, symbiotic program activities which support one another in achieving the overall objective of improving the workforce in the sub-region. Through the MS2W Network, instructors, administrators, students, and businesses collaborate to leverage new resources, share knowledge, and co-create activities; not only to achieve quantitative targets, but in going above and beyond to truly develop innovative, sustainable impact. Program activities are divided into the following complementary tracks:

1. **Instructor Professional Development;**
2. **Industry Partnerships;**
3. **Innovation Challenge;**
4. **Youth Engagement;**
5. **Depth & Scale: Grants, Integration, & Institutionalization.**

I. INSTRUCTOR PROFESSIONAL DEVELOPMENT

Traditionally, Lower Mekong schools admit that they value 21st century skills but still teach in a way that focuses on rote memorization and theoretically-based answers. USAID-LMI COMET attempted to promote innovative student-focused ways to teach, assess, and how a curriculum should be implemented. The project dealt with the heart of the issue – instructors who are subject-matter experts, have limited connection to industry and have never been taught how to teach.

> *"I have a PhD in chemical engineering. I've been teaching for five years but was never taught how to teach. The MekongSkills2work Sourcebook and training practices show me how to better reach my students." – Paritta Prayoonyong, University Instructor, Thailand*

USAID-LMI COMET established a system that institutions could use to change this shortcoming. The project trained 1,093 instructors and administrators in dynamic teaching methods through face-to-face workshops, an online advanced professional development course, and instructional coaching.

Through blended training, the MS2W professional development system is flexible and gives instructors the depth of knowledge and skills to implement real-world projects in their classes, evaluate them appropriately, and be more responsive to real-time industry needs.

The goal of the Professional Development track is to ensure that instructors are equipped with effective tools and competencies to revamp their instructional approaches, and spread the MS2W model, ultimately leading to sustainable, positive change.

ADAPTING THE APPROACH

Being a regional project drove many of the decisions that shaped the project's approach.

Based on feedback from the pilot technology-based work readiness curriculum in 2015, the project could not introduce a curriculum that would work for all given the diversity of subject areas and languages across instructors and institutions. More importantly, the project did not want to create extra-curricular courses - the approach being less sustainable, scalable, and unrealistic given instructors' time availability.

The project pivoted to the standards-based approach. There were goals for instructors and institutions to achieve, and a series of professional development opportunities to help them reach these goal.

The MekongSkills2Work Sourcebook and professional development approach were crafted by applying CLA principles – designing with stakeholders, testing, revising, reiterating. The approach was primarily bottom up – working with instructors to give them tools and skills to make changes within their own classes and connect industry needs to their content on a real time basis.

The project had an initial target of 105 institutions reached. While this target could have been achieved, instructors would not have had sufficient time to achieve competence before being expected to train others. Based on the lessons learned during the first two years of implementation, the project modified its target from 105 to 15 institutions, focusing on full institutionalization within an institution prior to expanding to others. USAID fully supported this shift from breadth to depth.

CURRICULUM DEVELOPMENT

USAID-LMI COMET offered instructional improvement tools and professional development opportunities for instructors to develop job-focused skills in their students and prepare them for relevant and productive employment. Professional development centered on the mastery of pedagogical skills and methodologies in the MekongSkills2Work Sourcebook.

The MekongSkills2Work Sourcebook is a set of modular standards-based guides that help instructors and administrators apply innovative teaching and learning approaches. By using these best practices and strategies, educators build partnerships with employers and better prepare students for jobs.

The Toolkits in the MekongSkills2Work Sourcebook

The MekongSkills2Work approach helps reform post-secondary education to:

The project gave instructors instructional methodologies that develop the skills that employers want, such as collaboration, critical thinking, communication, and adaptability. Students build these skills when instructors shift from traditional lectures to learner-centered instruction. Introducing project-oriented learning (POL) and work-based learning (WBL) allows learners to build the skills needed to successfully transition to work.

The project gave instructors models for integrating technology into their classes through both education technology tools and online resources. The project moved away from the original aim of using Massive Open Online Courses (MOOCs) as a solution to bridge existing skill gaps, since quality materials are largely in English (a barrier for many students) and internet access proved to be a major issue.

This method did not take time away from their classes, but instead was designed to be part and parcel of how they taught, using POL as the organizing principle.

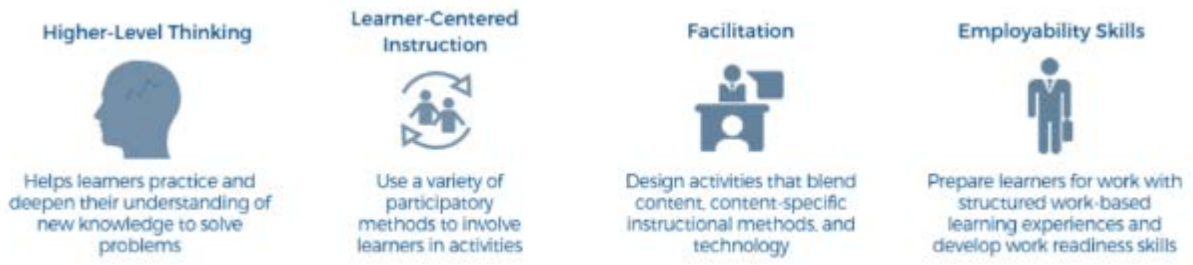
The MS2W model proved to be easily replicable and scalable, both within an institution and within a country. This is largely due to the flexibility of the standards-based approach of the Sourcebook and not forcing a prescriptive, "one size fits all," model.

> *"The Sourcebook made it 'easier to train others' and a resource that [instructors] can refer to when they are going to apply activities for their students." – Trained instructors, Thailand.*

All MLCs have successfully adopted the MS2W Sourcebook at different levels. For example, HuelC has encouraged instructors from all departments to go through professional development workshops and apply the Sourcebook toolkits in classes. UTYCC is leading a national level expansion in Myanmar. Other MLCs extended the use of the Sourcebook and model beyond the STEM+AT departments initially adopting the project model.

MEKONGSKILLS2WORK CERTIFICATION FRAMEWORK

As MS2W-trained instructors progressed, they were expected to provide professional development workshops and coaching support to their peers. However, it became clear that these instructors needed a much deeper foundation. Knowing that short, one-off, trainings would never be enough to guide an instructor to use new methods of instruction, the project provided instructors with an in-depth professional development program. By going through the professional development program, instructors learn how to model these skills in their classroom and lead student-centered learning experiences that build the skills most needed to succeed in the workforce. USAID-LMI COMET certifies instructors with competency in 4 areas:



Instructors start with face-to-face workshops, and then continue on to the online Advanced Certification Course (3 stages over a period of 36 weeks). In the online program, they go through a three-step certification process: MS2W Instructor, Lead Instructor, and Master Instructor. Master instructors whose portfolios reflected successful application of the implementation standards received invitations to become master instructors with distinction and specialize in instructional coaching and/or leading the online course. These master instructors with distinction were on the MS2W Network's Professional Development Expert Team.

MEKONGSKILLS2WORK CERTIFICATION FRAMEWORK

The goal of the MS2W Professional Development (PD) approach is to certify instructors as MS2W PD Providers who demonstrate a basic set of competencies in implementing the MS2W approach. Instructors go through a 3 step Advanced Certification Course.

Becoming a Certified MS2W Instructor

1

How to earn it

- Complete Stage 1 & 2 MS2W PD Workshops as a participant (aprox. 2 days/stage)

What can they do?

- Apply the toolkits from the MS2W Sourcebook in their classes
- Be a member of MS2W Network
- Be officially considered a MS2W instructor

Becoming a Lead Instructor

2

How to earn it

- Eligible after implementing MS2W approaches in class for at least 1 semester
- Complete Stage 1, 2 & 3 of the MS2W Advanced Certification Course
- Digital badges awarded on the MS2W portal after each stage

What more can they do?

- Lead MS2W PD Workshops up to the level they earned a badge
- Start providing ongoing instructional support to instructors in their institution

Becoming a Master Instructor

3

Master Instructors

are seen as teaching experts in the network. Some serve as MS2W Advanced Certification Course instructors & master coaches.

How to earn it

- Successfully completed all 3 stages of the MS2W Advanced Certification Course
- Lead MS2W Professional Development Workshops

What more can they do?

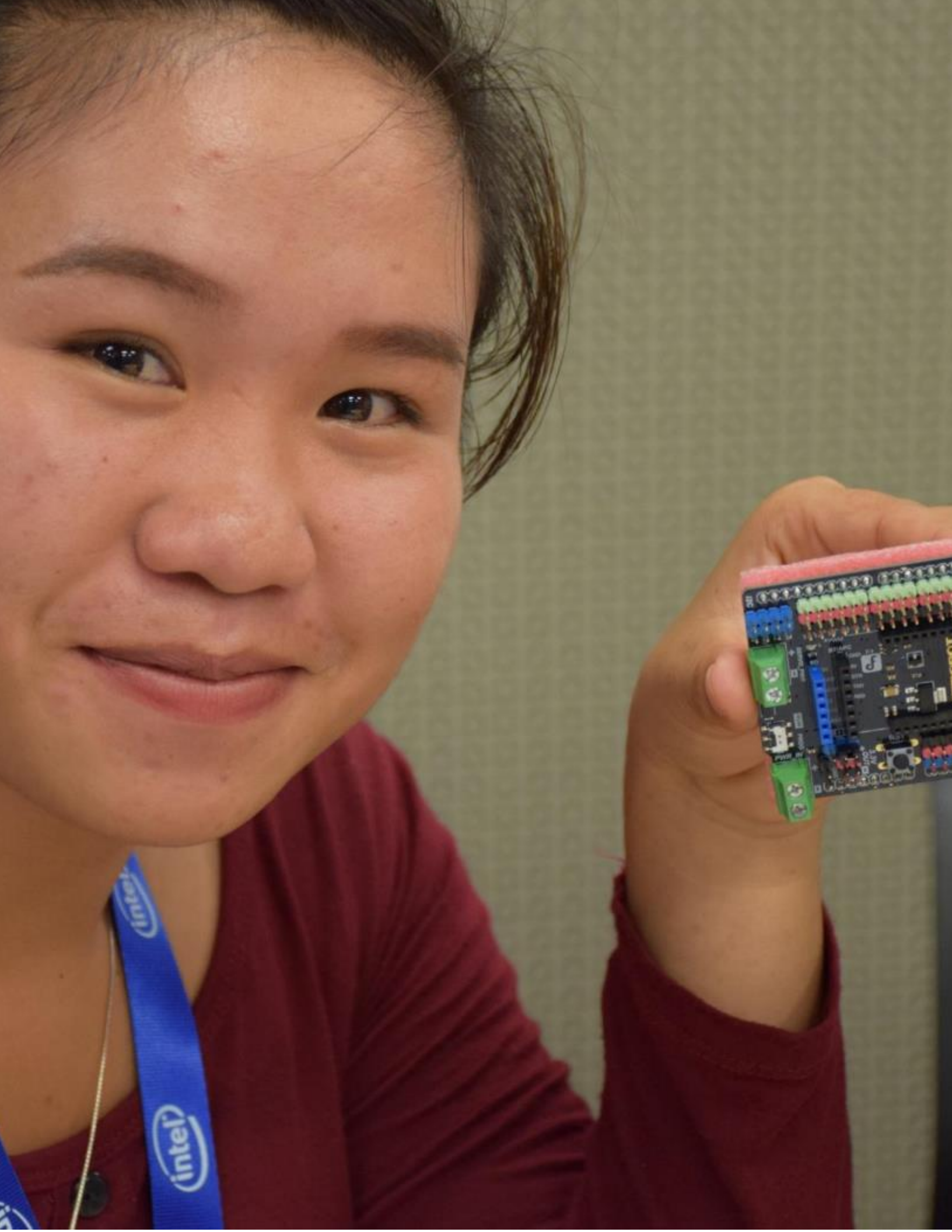
- Lead all levels of MS2W PD workshops
- Provide ongoing coaching to instructors across the network
- Become a Master Instructor and a member of expert team

Workshops and courses are not enough to change teaching practices: Instructors need ongoing support. USAID-LMI COMET's instructor support model evolved over time: from technology-based peer support, onsite observations and feedback sessions by the project team, to three-level coaching by master instructors. While some of these methods could be introduced early in a project, others are predicated on the need for master instructors to first attain a certain level of competence; otherwise, bad practices could easily spread. For example, the research very clearly shows that some coaching is better than a lot of training, though ONLY IF the coaching is of very high quality.

In post-secondary education in the Lower Mekong sub-region, people associate instructional coaching with evaluation and adherence to standards from a quality control perspective. Instructional coaching to improve skills and provide support is a new concept for them. In this regard, USAID-LMI COMET was quite cutting edge.

Through the creation of the network-wide expert teams in Year 4, USAID-LMI COMET started to transition leadership roles from the project to the MLCs. The online course instruction experts delivered the Advanced Certification course to lead instructors; while the coaching experts trained master instructors on the three levels of coaching, taking into consideration the capacity and readiness of each master instructor.

To date, several MLCs such as DUE, HUST, HueIC, and MU have integrated the MS2W model into their teaching system and professional development strategies. In some MLCs, the MS2W model expanded beyond the project's expectations. HCMUTE, HueIC, and UTYCC, for instance, managed to deliver additional workshops using their own resources. UTYCC is seen as having achieved the ideal professional development model for other institutions in Myanmar, and its efforts have led to a national roll-out, which is currently underway. At NUOL and USEA, lead instructors witnessed the MS2W model's benefits. They have started to plan for institutional expansion, though at a slower pace. Many institutions used the online course to support instructors' development and address professional development gaps.


intel

II. INDUSTRY PARTNERSHIPS

A better match between labor supply and demand will strengthen business productivity, and at the same time, it will provide more meaningful jobs for workers. In line with USAID's Private Sector Engagement (PSE) framework, the project put a strong emphasis on collaborating with industry partners as a critical part of the solution to workforce development.

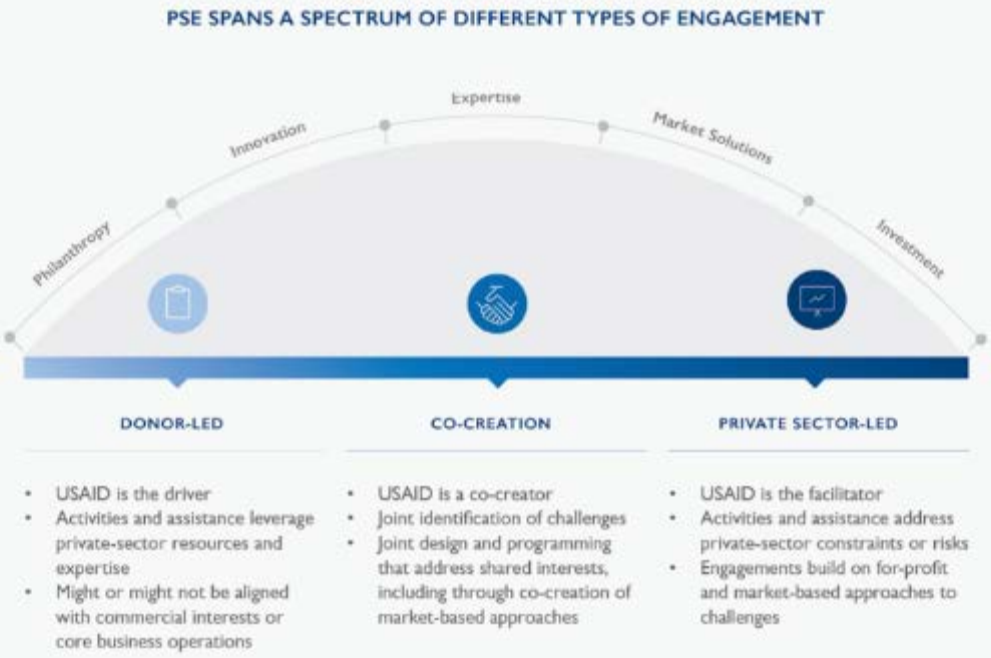
Local and international industry partners were crucial constituents in the success of the project and the MS2W Network.

Multinational industry collaboration supported the regionality of the USAID-LMI COMET project, strengthening the viability and functionality of the MS2W Network.

Local-level partnerships between MLCs and industry allowed current skill needs to be communicated and addressed, strengthening jobseeker employability and productivity.

MULTINATIONAL INDUSTRY PARTNERSHIPS

The project collaborated with globally-prominent multinational corporations such as Cisco, Google, Intel, Microsoft, National Instruments, and Amazon Web Services to leverage technology and innovative instruction in classrooms and workforce development, as well as address socioeconomic issues facing the Lower Mekong sub-region, such as gender inclusivity. The value of these partnerships was estimated at over $8 million.



Pilot Technology Integration

In the first year of project implementation, these multinational partners participated in and sponsored five multi-day events in Thailand, Laos, and Cambodia. The events allowed education institutions to find new ways to include real industry products and services in their training. This collaborative partnership allowed the project to test out best approaches to leverage expertise of these partners and come up with strategies to deepen partnerships in the following years.

WOMEN EMPOWERMENT THROUGH PARTNERS

To empower and support women in the STEM workforce, the project, together with Intel, Cisco, Microsoft, and Wedu organized the workshop, "Women in Tech: A Celebration of Women in Science and Technology in the Lower Mekong Countries," in January 2016. The former US Presidential Science Envoy, Dr. Geraldine Richmond, facilitated the workshop to encourage young women to network and thrive in their careers in STEM. The project brought 27 female science and technology students from ten universities to participate in the workshop in Ho Chi Minh City, Vietnam.

Building Young Innovators with Intel

Intel's partnership with USAID-LMI COMET began in the first year and has grown even stronger since. The project collaborated with Intel Thailand in 2015 to train instructors on Intel's Galileo processing boards, helping them enhance participatory and innovative classroom instruction at the USAID COMET-Intel Tech Innovation Workshop.

Throughout 2016, Intel was a lead corporate partner in the YSEALI World of Food Innovation Challenge, providing technology training and business mentorship to youth in Southeast Asia.

In 2017 and 2018, Intel donated 850 Galileo Gen2 boards for MLCs to use in science and technology classes, as well as in POL activities and institutional innovation challenges as part of the MS2W instructional approach. To support the use of Intel technology in innovation challenges, the project introduced MLC students to Intel's Makershare.com - an online learning center supporting makers and innovators in developing new skills and

incorporating new technologies into their projects.

Because of this strong partnership serving common interests, the project received Intel's Plaque of Appreciation for outstanding and dedicated partnerships towards Building Young Innovators.

National Instruments Technology for Fab Labs

National Instruments (NI) was one of the partners implementing the YSEALI Innovation Challenge managed by USAID-LMI COMET. NI hosted the challenge's winning teams on an office tour and in a hands-on robotics workshop in Texas. Following the YSEALI Innovation Challenge, NI helped connect the Malaysian Innovation Challenge instructor to partners in Malaysia to support the development of an Innovation Center/Fab Lab at INTI University. The project also connected NI with MU to provide advice for MU's Fab Lab development.

Integrating Amazon's Cloud Technology into Curriculum

USAID-LMI COMET initiated a partnership with Amazon Web Services (AWS) in 2017, bringing the AWS Educate program to MLCs. MLCs were able to use AWS Educate content on developing cloud-based services to create new courses using the MS2W framework. These courses could then be posted on the AWS website and shared both regionally and globally. The project has thus far piloted this service with three MLCs: ITC, MU, and UTYCC, all of which are now integrating cloud technology into their curriculum and classrooms with project and AWS support.

GENDER INCLUSIVITY IN STEM WITH CISCO

Cisco and USAID-LMI COMET promoted several activities that supported women empowerment and gender inclusivity in STEM. The project helped promote Cisco's Women Rock-IT series, which was launched on the MS2W Portal and through online channels in 2017. The project also promoted Cisco activities and online courses that could benefit MLC instructors and students on the MS2W Network Portal, such as the IoT Fundamentals Course, the Cisco Network Academy, and the Global Solver Challenge. Cisco also led the "Women in STEM" session at the 2nd MS2W Leadership Summit in January 2018.

In 2019, USAID-LMI COMET partnered with Cisco on an online campaign called "#MekongMyWay" an open competition to showcase stories from female students and young professionals in STEM. Cisco Thailand invited the project to further collaborate with their annual global initiative to promote women in STEM, Women of Impact, resulting in a joint campaign with #MekongMyWay. From this collaboration, the campaign reached 1.6 million people online in the span of one month. The top three winners received exclusive career counseling from Cisco and also mentorship opportunities with Wedu.

CASE STUDY

Promoting Political Engagement With Young Women In Myanmar & Thailand

Women in Yangon and Bangkok are partnering to encourage young female students to share their voices in the political arena – Thanks to #MekongMyWay and Women of Impact.

Kannikar Chanpoom from Thailand, one of the #MekongMyWay campaign winners, has an ongoing initiative called "Youth Political Leader" to raise awareness among high school students about women participation and gender equality in politics. Her activities train young women on critical thinking and media literacy.

Kannikar was invited to the LMI Women Leadership forum in Phnom Penh where she was introduced to a network of women leaders in the region who are tackling challenges in their communities. This was also where she met Htar Htar Thet from Myanmar, an advocate for women participation in politics, raising the awareness to female students in Myanmar.

The #MekongMyWay campaign and Women of Impact 2019 event in Bangkok brought the two women together once again. Through a series of collaborative workshops and mentorship led by Cisco, Wedu and USAID-LMI COMET project – Kannikar and Htar Htar sparked a new project idea.

The two women are now co-developing a project across Myanmar and Thailand to promote young women's access to information, training them to critically analyze news, and encouraging them to participate in politics. The women will share training approaches and materials, as well as encourage student peer-to-peer learning activities across the two countries

This case study is a prime example of how once there is a platform where passionate females can collaborate, the connections and combined impact will continue to expand beyond the initial investment – leading to a journey of self-reliance.

LOCAL INDUSTRY PARTNERSHIPS

To strengthen existing relationships between MLCs and local industry partners and to help establish new linkages where possible, the project implemented a strategy to strengthen the MLCs' ability to provide more beneficial work-based learning experiences for students, and to provide more meaningful and fruitful benefits for their industry partners. Strategies to strengthen these linkages included Building Industry Partnerships; Linking Curriculum to Industry Needs; and Work-Based Learning.

Local industry partner engagement can be grouped into six categories: providing input to curriculum, sponsoring events, providing technology, providing services, providing scholarships, and providing internships and jobs.

Growth of Local Industry Partnerships

The overall number of industry partners grew by 190% since the beginning of the project (see Figure 3).

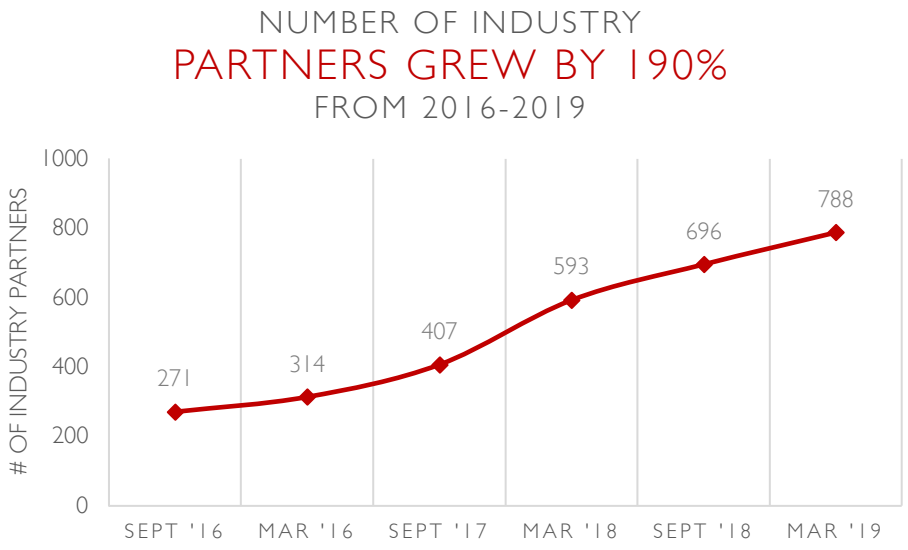


Figure 3: Overall Industry Partnerships Growth

When looking at MLC partnership engagement between 2016 (beginning of Grant phase I) and 2019 (end of Grant phase II), results show increased diversity in the type of relationships between local private partners and MLCs (see Figure 4). In 2016, the highest level of engagement took place in the area of internships/jobs. Following the MLCs' application of the Building Relationship with Industry Toolkit, the 2019 results indicate an increasing level of engagement across curriculum review, scholarships and service provision.

A number of MLCs have set up industry partnership offices to support collaboration with industry partners. Some have built high-level formal relationships by signing MOUs with partners. All have developed internship programs, which are the foundation for the implementation of the Work-Based Learning (WBL) model.

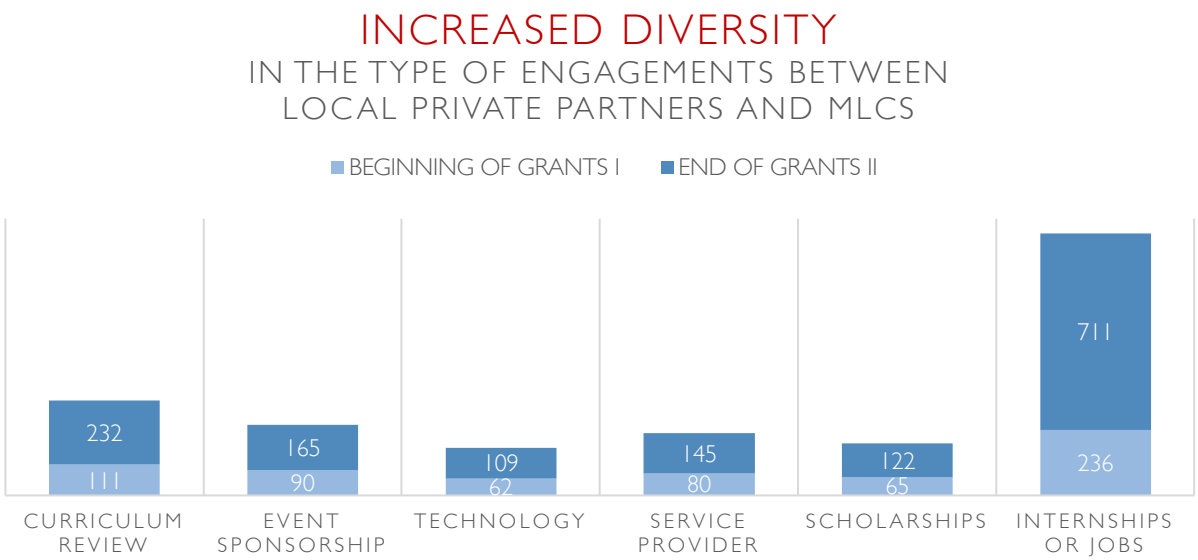


Figure 4: Types of Private Sector Engagement

Local industry partnerships existed before the launch of USAID-LMI COMET and will continue beyond the end of the project. The sustainability of these relationships hinges on market demand rather than specific USAID-LMI COMET activities or initiatives; as long as universities and colleges continue to produce highly-skilled graduates, local private sector will be incentivized to partner. As referenced in the project's evaluation report conducted by external evaluators, a local industry partner in Vietnam was quoted as saying,

> *"We'll strengthen our relationship [with the MLC] in not only mechanics but also in sales. Due to the high demand of high-quality workforce, we'll work closely with the college."*

Matching In-Demand Skills

In September 2018, USAID-LMI COMET conducted a survey with the MLCs in order to assess their individual capacity to work with industry partners in identifying and attending to the skills young graduates need to succeed in the workforce. The majority of the MLCs did fairly well in working with industry partners to address in-demand skills. Certain methods of working with industry were more prevalent than others – these results are not altogether surprising, as it can take time to internalize and institutionalize more formal processes of interacting with industry. The survey was then repeated in March 2019 to analyze change over the 6-month period. There was overall growth in working with industry to address in-demand skills, and generally either maintenance or improvement from the 2018 results (see Figure 5).

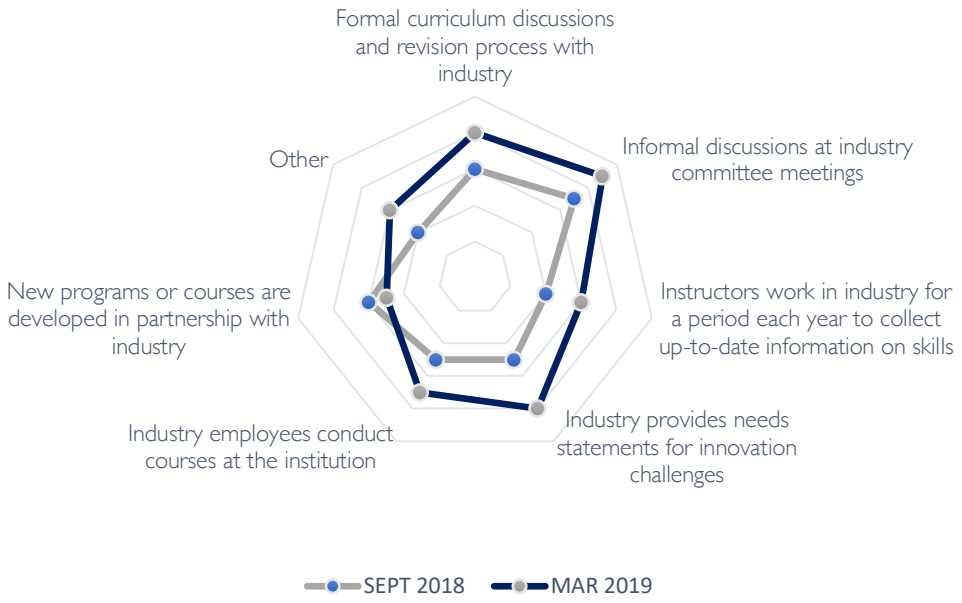


Figure 5: Approaches to Address Industry's In-Demand Skills

Overall, the process of building industry partnerships has been an effective tool in the Lower Mekong sub-region's journey to self-reliance. With the USAID-LMI COMET framework and toolkits as a guide, institutions now have the skills, training and knowledge to institutionalize these processes and to incorporate industry partnerships into their larger development strategy. The MLCs proved to be very capable in using industry partnerships to bridge the skills gap for their graduates, and will be able to use these systems to grow and sustain their efforts into the future.

Establishing sustainable partnerships is a step-by-step process that involves trust building and an ongoing exchange of information to identify opportunities that meet mutual interests. Although it takes time, once connections are established, they will continue to grow and evolve into substantial partnerships between MLCs and the private sector, creating a path towards sustainable workforce development.

WORK-BASED LEARNING

A better prepared workforce is the result of improved classroom and teaching practices, as well as improved structured and effective activities that guide students to engage with real workplaces.

The MLCs have developed structured private sector partnerships with large and medium sized local industry companies. These institution-level partnerships provide the MLCs with opportunities to understand the demand of the private sector, while providing internships for students. The Work-Based Learning strategy and tools developed by USAID-LMI COMET empowered classroom instructors and their students to gain access to smaller local workplaces. Through this, students found opportunities to learn about and practice work-related skills at relevant workplaces, which in turn, has prepared them for internships and enabled them to make better career choices.

The USAID-LMI COMET approach to work-based learning was distinctive and different. In the Lower Mekong, it is not uncommon for an internship to be the first time a learner is exposed to the workplace. Given the differences between the world of work and a student's educational experience, this can make the internship experience challenging. The goal of the USAID-LMI COMET work-based learning approach was to change the mindset of instructors, so that they understood that simple work-based learning activities could be conducted in every classroom, without taking up much teaching time. This approach focused on the preparation of students for the workplace and an internship, so that students can hit the ground running.

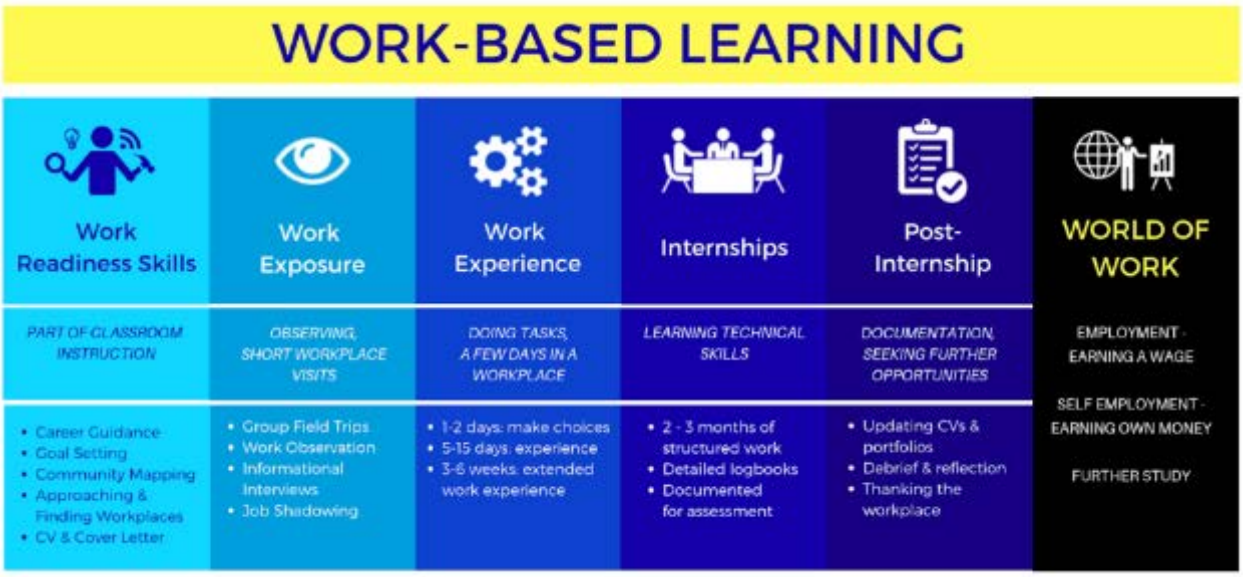


Figure 6: Work-based Learning Continuum

In August 2016, the project introduced the work-based learning approach to country managers, who supported local instructors in applying the concept. A year later, in August 2017, the project deepened the intervention, by training select instructors as work-based learning coordinators in order to better tailor the approach to their specific needs and context. The work-based learning coordinators, in turn, provided training to instructors at their respective institutions. At the final level of intervention, in August 2018, the Work-Based Learning Expert Team was formed to better support MLCs and instructors in implementing work-based learning across the sub-region.

The practical and relevant resources MS2W Network member institutions, instructors and students received from USAID-LMI COMET enabled them to continue to improve their work-based learning activities. These resources included the Work-Based Learning Toolkit, Work-Based Learning Instructor Training Manual, work-based learning trainings, and ongoing support both through site visits as well as regular virtual support. The strength of the toolkit is its adaptability – institutions and instructors can choose the components that they want to use and adapt and translate them accordingly. Work-based learning trainings and follow up support resulted in instructors implementing work exposure (observation and interview) activities with their students in small local workplaces. Instructors and students posted their activities on the portal or on Facebook, encouraging other students to do similar activities.

USAID-LMI COMET's work-based learning approach empowered students to find workplace exposure and opportunities for themselves, rather than being dependent on their institutions. Some MLCs recognized the value of

this approach and integrated work-based learning into their institutions processes. Many of the MLCs, including HCMUTE, ITC, HueIC, HUST, used the student-centered instruments to improve their field trips and internships, thereby enhancing what they were doing, and building a better system.

> *"I used the work exposure worksheets with my students in Control Engineering and Automation, as well as in Introduction to Engineering to connect the theory and learning in the classroom with the real workplace situations. Students are more confident to enter workplaces after graduation because they had better previous exposures." – Dinh Thi Lan Anh, University Instructor, Vietnam*

The project encouraged customization of its work-based learning approach to better fit the needs and context of each MLC. The development of an expert team enabled more localized support to coordinators and encouraged the experts to further institutionalize work-based learning in their own institutions. Moreover, the project supported regional integration by developing a network of work-based learning coordinators who provided ongoing support to each other and instructors adopting the work-based learning approach across the network.

Over the course of the project, an important mind shift among instructors took place. They now recognize the value in small work exposure activities, seeing how, with very little teaching time required, they can empower students to engage with real workplaces. These activities will create a more robust workforce as students learn to engage with employers themselves to seek access to workplace.

EXAMPLES OF WORK-BASED LEARNING IN THE NETWORK

Different institutions adopted the work-based learning approach in different ways. The initial steps taken in the first year became more institutionalized in later years.

UTYCC translated the Work-Based Learning Toolkit and developed a practical logbook linked to the Myanmar education system, then shared this with 33 other Universities of Technology.

HCMUTE used the Work-Based Learning Toolkit instruments with 74 students on a four-week internship at 26 different automotive companies. The coordinator reported that the forms assisted the students to better review the work they had done. He also reported that the success of the improved process resulted in the university reviewing the curriculum, and considering an eight-week internship in the future. Additionally, the university initiated a work-based learning talk show broadcasted on Facebook and YouTube directed to high-school and university students.

HuelC translated eight forms from the Work-Based Learning Toolkit from English into Vietnamese so both instructors and students could more effectively use the toolkit.

ITC used an improved internship logbook and a post-internship tool adapted from the Work-Based Learning Toolkit with 100 students in two faculties to record their daily activities and key areas of learning.

DUE integrated work-based learning into its new instructor orientation and implemented ten weeks of work-based learning for students following the Work-Based Learning Toolkit.

III. INNOVATION CHALLENGE

Innovation and creativity are drivers of 21st Century economic growth. Businesses across the Lower Mekong sub-region seek new hires who can direct their own learning of technical and management skills and combine non-cognitive and technical skills to take on complex challenges. These blended or hybrid skills are increasingly the focus of recruiters in both traditional and emerging sectors. Project-oriented learning, design challenges, and hackathons all support the development and integration of technical and non-cognitive skills, approximating the hybrid skills needed to succeed in today's world of work.

USAID-LMI COMET introduced innovation challenges as a method of applying its project-oriented learning pedagogy to team-based activities over an extended period of time with local and multinational private sector engagement. In doing so, the project and the participating institutions were able to focus on select non-cognitive skills critical for success in the workplace—teamwork, communication, and goal-setting—and embed those in activities that introduced new and in-demand skills, from creative problem solving to design thinking, as well as new and emerging technologies.

YOUNG SOUTHEAST ASIAN LEADERS INITIATIVE (YSEALI) WORLD OF FOOD INNOVATION CHALLENGE

Launched in February 2016, the first USAID-LMI COMET innovation activity was the YSEALI World of Food Innovation Challenge. The project invited youth across ASEAN to submit their innovative technology solutions to regional agriculture and aquaculture challenges. USAID-LMI COMET organized and managed the challenge's technical program, coordinating inputs from multiple private sector and other partners throughout the competition. Public and private sector partners involved in the challenge included the ASEAN Secretariat, USAID PROGRESS, Intel, National Instruments, Cisco, and IC2 (Innovation, Creativity, Capital) Institute at the University of Texas, Austin.

The challenge took place over an 18-month period, during which applications from each ASEAN country were reviewed, and 10 teams of mixed genders and disciplines ultimately selected to participate in a bootcamp held in Singapore and hosted by Intel and Cisco. The bootcamp focused on key 21st century skills to be reinforced throughout the challenge, and supplemented by introductions to design thinking and technology. After the bootcamp, the 10 teams were paired with mentors and spent 10 weeks furthering their designs before participating in a two-stage selection process.

The final selection, conducted by the ASEAN Committee on Science and Technology, awarded first place to the Indonesia-based Micro-Bubble Technology, MINO.

"We believe this system will not only increase the welfare of fish farmers, but will also create job opportunities in other sectors, as well as improve food security locally, internationally, and regionally." – MINO
Find out more about their journey here.

INSTITUTIONAL INNOVATION CHALLENGE

Building on the success of the YSEALI Innovation Challenge, the project partnered with Texas A&M University (TAMU) to develop and pilot an approach based on TAMU's Intensive Design Experience (IDE) model that could be delivered by MLCs. Like the YSEALI Challenge, the TAMU approach focused on elements related to work readiness skills development and project-oriented learning, and then added entrepreneurialism.

The USAID LMI-COMET approach asked MLCs to host a series of three IDE weekends (together, the series of three weekends are referred to as the MS2W Innovation Challenge). During these Innovation Challenges, MLCs asked student teams (multidisciplinary, mixed gender required) to develop and refine solutions to local problems, sourced from employers and from the community.

USAID-LMI COMET, TAMU, and Intel cooperated to train pilot MLCs to deliver Challenges and to participate in the global Invent for the Planet Innovation Challenge hosted by TAMU. The pilot stage of this activity kicked off in September 2017, with a workshop in Thailand for a team of two instructors from five MLCs. From September-December 2017, participants piloted the approach with their own students.

Institutions that successfully piloted an IDE were then eligible to participate in TAMU's global challenge: Invent for the Planet.

Figure 7: The 4 Stages of TAMU's Intensive Design Experience (IDE)

INVENT FOR THE PLANET 2018: "BRIGHT STUDENTS FROM MYANMAR SHINE AND INNOVATE"

From February 16-18, 2018, TAMU's Invent for the Planet challenge brought together 14 universities from around the world – including three MLCs – to develop solutions to global challenges. TAMU's own ILLUMI-NITE team took first place, with UTYCC's Edu-LIGHTER team coming in second. Since both teams focused on the same needs statement – developing a solution for continuing education in rural areas without electricity – TAMU invited the UTYCC team to visit Austin, Texas from March 19-25, 2018, and work with ILLUMI-NITE on an integrated solution. The partnership led to the creation of the Edu-LITE team. Edu-LITE's work gained a great deal of national and international attention, and was featured in local TV and print news.

Read more about their journey here.

The project held a debrief webinar with participating institutions and solicited written feedback. These initiatives enabled best practices and lessons learned to be collected and the Innovation Challenge Handbook updated.

Following each Challenge, USAID-LMI COMET asked that students complete an online survey. Survey results signaled that the MS2W Innovation Challenge approach enhanced students' technical and work-readiness skills. Most students completed their IDE weekends with a greater understanding of engineering and design, and more confidence in a variety of work-readiness skills.

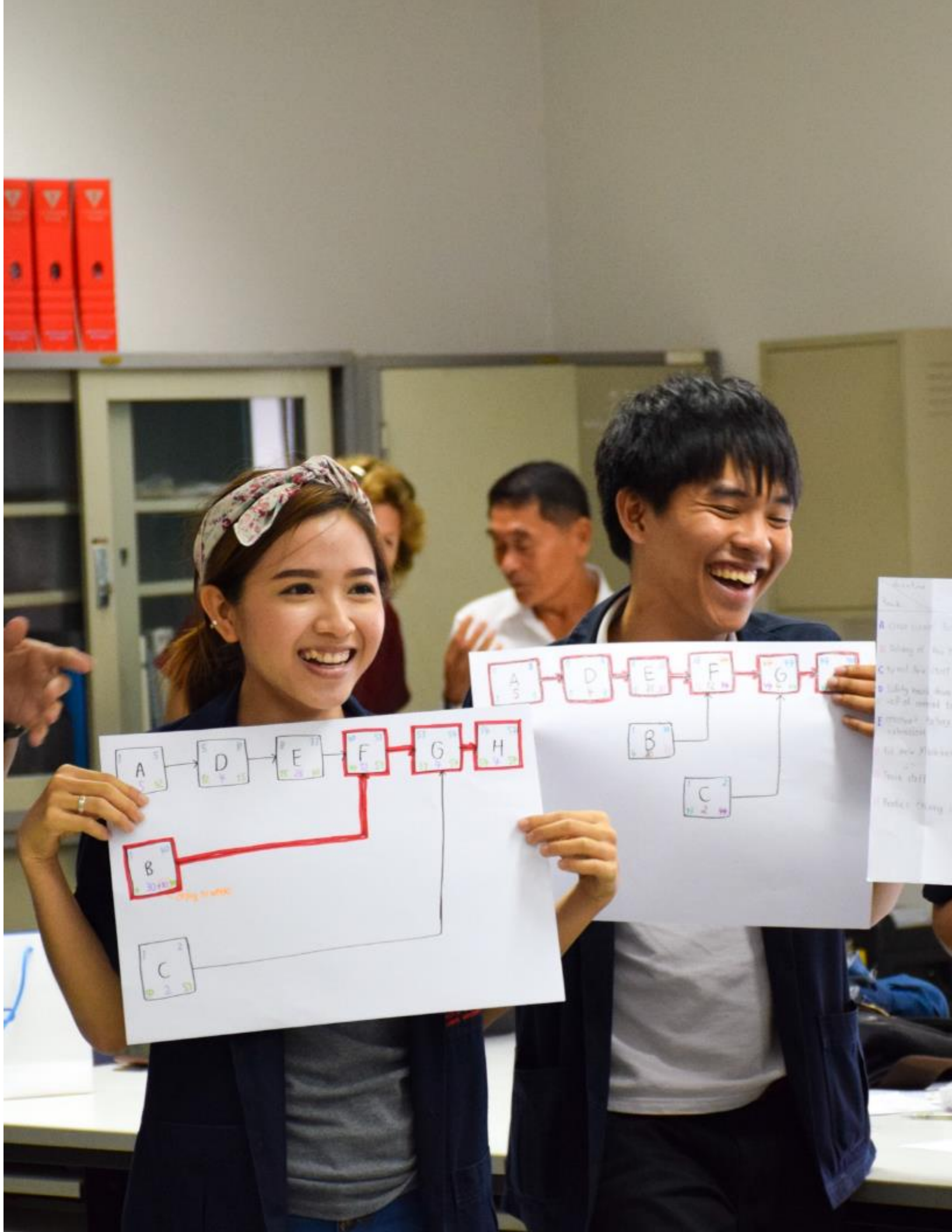
> *"This challenge taught me from developing prototype suited for sustainable business up to testing and validating with real customers. These skills are so valuable for my future career as an entrepreneur." – Female student, Cambodia*

In its final year, USAID LMI-COMET rolled out the MS2W Innovation Challenge model to all MLCs. MLC instructors who participated in the pilot became "Innovation Experts" and were provided with further training and support for peer coaching. Innovation Experts worked closely with Innovation Leads at MLCs new to the MS2W Innovation Challenge process, helping the leads to plan for and coordinate the series of 3 IDE weekends. To support Innovation Experts in this role, the project invited them to participate in monthly coordination and coaching calls with the USAID LMI-COMET team.

Innovation Leads and Innovation Experts were encouraged to further customize the challenge model to meet the needs of their communities, including the local businesses that participated in challenges as mentors, judges, or by submitting problem statements. This led to a flourishing of local models for Innovation Challenges, including an in-class model where challenges are part of a full semester-long curriculum, parallel high-school and university challenges, and youth-led challenges. The local adaptation of the challenge model is a significant signal of buy-in and ownership from MLCs and from the larger public and private sector communities involved in Innovation Challenges.



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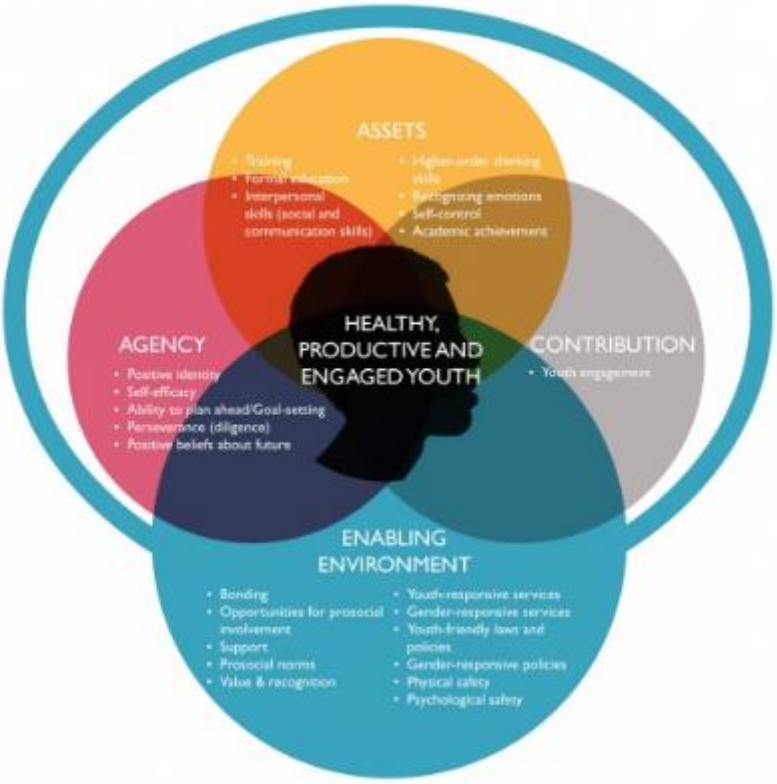
IV. YOUTH ENGAGEMENT

When a project's ultimate goal is to promote youth employability, it makes sense to encourage youth to engage and become the agents of their own development.

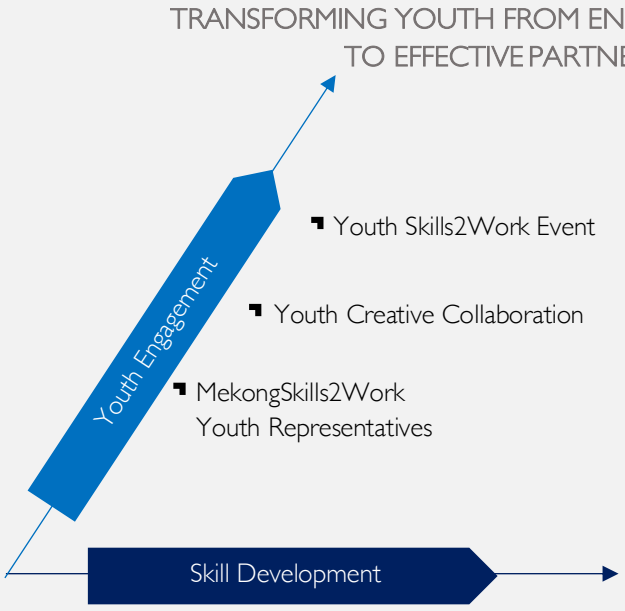
After the USAID-LMI COMET established the necessary enabling environment (see USAID's Positive Youth Development) with instructors and businesses, the project started working with youth directly at the end of the fourth year.

Youth should be more fully engaged not only so they can self-navigate through the world of work, but also to help their peers do the same.



YOUTH REPRESENTATIVES

The project initiated a "Youth Engagement Initiative" to increase youth participation in their own development, creating a sense of ownership to facilitate sustainable impact. A cadre of youth representatives (youth reps) became the driving force of this approach. Instructors and administrators at each MLC identified youth with high leadership skills and enthusiasm for self and community development. Depending on their interests, these youth reps would provide support on different programmatic components of the MekongSkills2Work model – work-based learning, innovation, institutionalization, and communications.

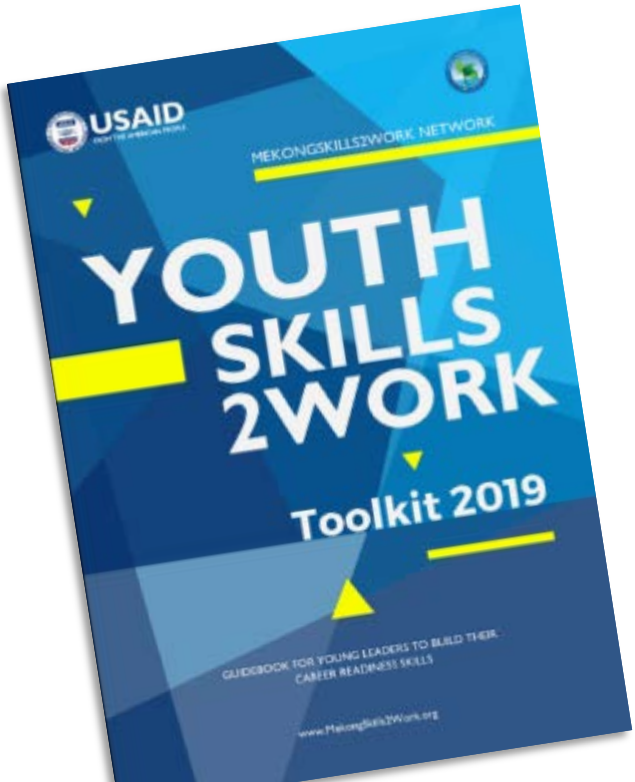


"I could not find the right direction for my future career nor ways to help my community until I became the Youth Representative of MekongSkills2Work Network" - Skills2Work Youth Rep, Vietnam

"...it allows me to expand my network...to share what I have learned to help those around me to set the first step in their self-development process." – Skills2Work Youth Rep, Vietnam

YOUTH CREATIVE COLLABORATION

In order to prepare for the innovation economy, youth need to demonstrate their abilities in critical thinking, problem-solving, creativity, and collaboration – all of which can be fostered through design thinking activities. Pilot "Youth Creative Collaboration Workshops" were conducted to redesign the Skills2Work experience through human-centered design with youth and for youth. The project collaborated with youth reps from HCMUTE, UD, DUE, and ITC. First, they learned about the design thinking process and then they worked together to brainstorm solutions to upgrade the Skills2Work experience for their peers.



YOUTH SKILLS2WORK TOOLKIT

Gathering best practices, lessons learned, and feedback from collaborations with Youth Reps, the project created the "Youth Skills2Work Toolkit," a step-by-step guide for youth to implement skills building workshops, with sets of activities focusing on different aspects of career readiness preparation.

Depending on interests and needs in each institution, youth can pick and choose or customize activities they think are most suitable for their audience to feature in their events or workshops.

YOUTH SKILLS2WORK EVENTS

Youth reps acted as advocates for the project, encouraging their peers to equip themselves with the right skills for the future world of work. Taking guidance and activities from the Youth Skills2Work Toolkit, youth reps created the "Youth Skills2Work Event" to address different facets of career readiness.

With different resources and capacity, they customized the event to fit with their contexts and align with the needs and interests of their respective audiences. Eight out of ten MLCs successfully organized one of these events at their institution.

The events were well-received and youth reps reported noticeable improvement in terms of leadership skills, problem-solving and teamwork. Participants found the events to be new, dynamic and interactive and indicated they would like more events of this kind.

The Youth Engagement Initiative transformed youth from end beneficiaries to direct beneficiaries in the MekongSkills2Work Network. Through direct collaboration with young people, the project learned about their skills development and career readiness needs and designed and adapted programs to meet those needs — a clear case of CLA integration in youth development program design and implementation. The Youth Engagement Initiative also demonstrates clear cohesiveness with USAID's Positive Youth Development Framework.

> *"In the future, I think I will be able to do something more effectively and also I will do better with my job because I have learnt a lot of skills from this network. It is not a course skill, but it is a real practice skill that I have learnt and experience it by myself."* – *Skills2Work Youth Rep, Cambodia*

ENGAGING YOUTH THROUGH USAID'S POSITIVE YOUTH DEVELOPMENT FRAMEWORK

WAYS WE ENGAGE	OBJECTIVE	ILLUSTRATIVE EXAMPLE
Providing Assets to Youth	Skills building	Youth Reps programs and Youth Creative Collaboration are skills building activities which facilitate development of career readiness skills.
Encouraging Youth To Become An Agent of Their Own Development		
Creating Opportunities for Youth to Contribute to Their Community	Youth engagement and contribution	Youth implementing Youth Skills2Work events to improve career readiness through MekongSkills2Work model to their peers in the institutions.
Enabling Environment	Healthy relationships and bounding	Youth Creative Collaboration Workshops connects youth from different institutions in the Network and relies on their collaboration to develop solutions to redesign MekongSkills2Work experience for youth.
	Belonging and membership	Youth Representatives program encourages youth to form a regional network of young leaders with diversity in gender, nationalities and academic disciplines.

Figure 8: USAID-LMI COMET's Youth Engagement through USAID's Youth Positive Development Framework

Collaborations among Youth Reps cultivates a sense of belonging and promotes knowledge sharing which allows them to critically reflect on themselves and others as well as learn from each other. Finding commonalities and learning about each other's differences, through direct interactions, Youth Reps together with the project automatically adapt to evolve together. This synergy between youth and the project initiated from the pilot acts as an example of how Youth Reps can lead and improve learning experience of their peers through the MekongSkills2Work model in their institution.

> *"…through these activities and the event I organized, I realized that my greatest desire was to help develop the community, and I wanted to do it by helping the individuals around me be aware of their potential and start to improve the necessary skills for their future jobs."* – *Skills2Work Youth Rep, Vietnam*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V. DEPTH & SCALE: GRANTS, INTEGRATION, & INSTITUTIONALIZATION

The USAID-LMI COMET project strived to increase the skills of the workforce in STEM+AT professions through refining and strengthening the instructional capacity of vocational colleges and higher education institutions in the Lower Mekong sub-region. Combining in-person workshops and online training for instructors with applied learning opportunities for students allowed not only an economical region-wide reach, but also the opportunity for face-to-face networking at the sub-regional level that contributed to regional integration. The project promoted and facilitated innovative and sustainable partnerships between educational institutions, the private sector in both the United States and the LMI countries, and the LMI partner governments in order to carry out and institutionalize the project's innovative interventions in workforce education and training in the sub-region.

GRANTS

USAID-LMI COMET used grants under contract mechanism to facilitate innovative solutions to support instructional change and to address gaps in hardware, software, and connectivity at participating universities and vocational centers. USAID-LMI COMET implemented two-phased grant program: phase I (April 2016 – February 2018) and phase II (August 2018 – July 2019).

For both phases, the project awarded grants to 12 grantees (Mekong Learning Centers or MLCs) in total, through a competitive procurement process. These MLCs listed below were known as the core leadership institutions that were trained on and eventually shared USAID-LMI COMET's curriculum and model – the MS2W model – both within and across institutions.

1.	Mahidol University	Thailand
2.	Maptaphut Technical College	Thailand
3.	Ho Chi Minh City University of Technology and Education	Vietnam
4.	University of Economics – The University of Danang	Vietnam
5.	Hanoi University of Science and Technology	Vietnam
6.	Hue Industrial College	Vietnam
7.	University of Danang	Vietnam
8.	Institute of Technology Cambodia	Cambodia
9.	University of South-East Asia	Cambodia
10.	National University of Laos	Lao PDR
11.	Lao National Institute of Tourism and Hospitality	Lao PDR
12.	University of Technology (Yatanarpon Cyber City)	Myanmar

Figure 9: Map of Mekong Learning Centers

The primary focus of **grants phase I** was to strengthen the leadership capacity of the 12 institutions on professional development and industry partnerships. This phase started with active training and support to a core group of lead instructors and administrators as they learned about the MekongSkills2Work (MS2W) training model and applied it within their classrooms. Administrators and lead instructors collaborated with institutional leaders and other instructors to provide Sourcebook training so that others could learn from, apply, and expand the training approach within their institutions. They formed and strengthened industry relationships to learn about in-demand skills and update curriculum to meet employers' needs.

The **second phase of the grant** program built on the success of the first phase and included ten grantees . The MLCs either developed instructional improvement centers or encouraged instructional improvement efforts to better meet industry demand and produce work-ready graduates, based on the MS2W model. Instructors received training on how to implement work-based learning activities and institutional innovation challenges to foster work-readiness and disruptive skills for youth. The institutions deepened partnerships with public and private partners as well as other MLCs within the MS2W network. Notably, this phase put more focus on institutionalization – embedding teaching innovation in their organizational culture.

In implementing the first phase of the grant program, the project found that it was very challenging to set the same goals for all MLCs, to require them to conduct the same activities, and to grant the same amount of funds. It became apparent that each MLC had different areas of focus, performed at a different pace, and possessed different levels of capacity and commitment. Therefore, with grants phase II, the project requested that each MLC select an area of focus. The MLCs then set their own targets for each task to ensure that they were realistic and attainable. This flexible and contextualized approach, though more complicated for the project to manage, was favored by the MLCs as they could implement the MS2W model according to their own pace and capacity, while responding to their unique needs and achieving the project objective. This is another excellent example of the CLA approach in operation.

The activities implemented through the USAID-LMI COMET's grant program played an important role in MLC capacity development. Grants ensured that all MLCs successfully completed their deliverables within the designated period, while supporting all MLCs to achieve the overall project objective. Continued grant support would be crucial for capacity development to increase self-reliance, both at instructor and institutional levels, and generate opportunity for the institutional advocates to share and scale the MS2W model to the country level and beyond.

REGIONAL INTEGRATION

MEKONGSKILLS2WORK NETWORK PORTAL

The MekongSkills2Work Network Portal is an online personification of the MekongSkills2Work Network and the key to its regionality and sustainability. USAID's perspective on the key purpose of the portal shifted significantly over the course of the project. In the early days, the project conceptualized using a portal to host or link to MOOCs as a way to address gaps between industry and school content. As the project evolved and learned from collaboration with the stakeholders, it pivoted from this original vision, shifting to using the portal for professional development purposes.

This is a great example of how CLA, through incorporating project beneficiary feedback, helped ensure success. A significant lesson is embedded here: Most portals fail because they are not designed with the end-user in mind. Because this portal was allowed to change in response to differing interests and demands, it has an enhanced potential to be truly sustainable.

The MS2W Network Portal: A Platform for Services and Products Relevant and Beneficial to Instructors and Youth

The portal serves as a cyber-gateway to resources and learning and experience sharing opportunities.

Instructors

The portal serves instructors with the MS2W Sourcebook to enhance instruction and learning experiences and a learning management system that houses the MS2W Advanced Certification Course for instructors who want to become MS2W master trainers.

Youth

The project established a partnership with YouRock, a skill profile development platform focusing on helping youth discover their hidden work skills and develop a dynamic resume that attracts and connects them with employers. The portal also features career tips and skill development content and opportunities to help prepare youth for the world of work.

The MS2W Network Portal also provides job forecasting information with considerations of market-driven skills, gender inclusivity, and geographic perspectives from the project's labor market assessment studies.

Initially, the project worked with Edmodo, the online learning and instructional management platform, to offer online professional development courses to our instructors via two-way authentication within the portal. However, after Edmodo's ownership changed hands in 2018, the project found that it no longer complied with project contractual requirements. This led to the decision to develop an online learning management system (LMS) which was fully integrated into the portal.

The integrated LMS provides a seamless experience for project instructors to participate in the course and professional development activities while enjoying a wide range of learning resources available in the portal. To date, the portal has more than 1,000 instructors registered, with at least 150 enrolled in the online courses.

Throughout the life of the project, over 6,000 students registered on the MekongSkills2Work Network Portal and used YouRock service to help sharpen their resume writing. YouRock helps translate activities that students participated in during university years into professional skills required by employers. This can put our students ahead in the employer's recruitment.

> *"YouRock helped me to understand where I am at the moment and where should I head towards to in my future career. It's a really useful tool." – Student, Vietnam.*

LEADERSHIP SUMMITS

The Leadership Summit is a key professional development event that the USAID-LMI COMET project hosted twice during the life of the project. The conference served as a platform for the MLCs and other partners to promote networking and share information within their particular domains of expertise or other topics of interest suggested by the MLCs.

The first Leadership Summit took place on March 25, 2016, in Bangkok, Thailand, bringing together a wide variety of stakeholders to address critical skills challenges across the Lower Mekong sub-region and representing the birth of the

regional MS2W Network – the powerful human and knowledge network at the heart of the project. Over 100 participants from 12 MLCs, private partners, international organizations, and USAID and the US Government agencies participated. The participants gained rich information and insights from guest speakers on topics including educational institution leadership, regional labor market, industry-education institutions linkages models (to develop student's work-ready and market-driven skills), and partner industries' showcases.

During the summit, the MLCs received their first in-depth exposure to such key issues as the use of technology, monitoring and evaluation, and roles and responsibilities for grants management. Following the summit, the MLCs spent a week in an intensive training-of-trainers activity, becoming immersed in the issues surrounding blended learning, improved pedagogy, project-based learning, and student-centered assessment.

The 2nd Leadership Summit took place on January 16-17, 2018 in Bangkok, Thailand for networking and showcasing purposes. This summit, themed "Powering the Future," provided MLCs and network stakeholders with an opportunity to strengthen networking and showcase best practices in the areas of instruction, partnerships, innovation, institutionalization, and gender inclusion. Participants included MLC instructors and administrators, government representatives, industry partners including Intel and Cisco, and delegates from USAID RDMA and other regional agencies, such as UNESCO and the Asia Foundation.

Although there were limited opportunities for the MS2W Network members to share and learn face-to-face post-Summit, USAID-LMI COMET continued to promote virtual connection and regional integration through the Network's online portal and Facebook groups.

Expert Teams

USAID-LMI COMET supported regional integration through exchanges of staff and knowledge. By establishing these expert teams, the project cultivated a group of instructors across the five countries with the vision and necessary skills to promote and expand on the MS2W professional development, work-based learning and innovation.

The experts provided training and coaching support to their peer instructors implementing the MS2W activities, helping to strengthen not only the capacity of mentee MLCs, but also the collaborative relationship across the institutions. An example of the cross-institution collaboration organically stemmed from this activity is the fact that HCMUTE offered scholarships to NUOL students after a visit of the Innovation Expert.

INSTITUTIONALIZATION

It is unique that from the outset, the project worked closely with the MLCs to guide, design and implement institutionalization activities. To institutionalize the MS2W model meant establishing the practice of instructional change and industry partnership through the MS2W model as an educational norm in and beyond an institution. The goal was to ensure the sustainability of change. To this end, the project devised a set of tools and support, including mapping, leadership development training, change management, and institutionalization by design. It also assigned a senior institutional specialist to provide technical support.

> *"No development project nor corporate change management has experimented with the institutionalization of change before. USAID-LMI COMET's institutionalization is a ground-breaking approach in this field." – Prof. Dr. Kenneth Bartlett, professor of human resource development, University of Minnesota*

From conducting institutionalization mapping that informed programming about the contexts, capacity, opportunities, and challenges that could potentially influence the success of the MS2W adoption at the institutional level to applying the cutting-edge, industrial approach of design thinking to design institutionalization, the MLCs, for the most part, demonstrated growth in applying and institutionalizing the MS2W model within their institutions.

Figure 10. Institutionalization Map of a Mekong Learning Center

INSTITUTIONALIZATION MAP

During 2016-2017, the project collaborated with the MLC administrators through its field-based country managers in collecting and analyzing empirical data to map out the institutional context, capacities, and commitment of individual MLCs to institutionalize the change model. The results were original data-rich, in-depth, analytical institutionalization maps.

These maps informed programming about the contexts, capacity, opportunities, and challenges that could potentially influence the success of the MS2W adoption. These included institutional leaders' and instructors' buy-in and commitment, the instructors' knowledge about the MS2W toolkits, behavior on the job, attitude and preference, performance, and institutional engagement. At the same time, the maps informed the planning and coordination of project activities.

LEADERSHIP DEVELOPMENT TRAINING

In 2017, the project provided leadership development training for the 22 administrators and institutional leaders from partner institutions as well as LMI government representatives. The training, delivered by the Institute of Technical Education (ITE) of Singapore, demonstrated how Singapore, through the success of ITE, builds and sustains high-quality vocational training based on innovative instruction, work-based learning, and industry partnership.

This provided participants with a top-end standard of what can be achieved. The ITE example gives useful comparisons for the partner institutions to serve as benchmarks.

Learning from the leadership development training and the institutionalization mapping, the project realized that i) most institutional leaders, with the exception of UTYCC, HueIC and HCMUTE, did not firmly buy-in nor commit to instructional change; and ii) although the project mapped institutionalization in collaboration with the administrators, most of them have little idea how to use these maps to plan and drive institutionalization activities.

CHANGE MANAGEMENT

As a result, the project enlisted a professor of human resource and organizational development from the University of Minnesota for academic support. The 2nd Leadership Summit in January 2018 devoted substantial time and activity to clarify the what, why and how of institutionalization.

The summit introduced the organizational development approach of change management, which translates institutionalization as making change stick in an organization, i.e., embedding the MS2W model. As the approach is abstract, the project presented the framework and best practices from the MLCs at the summit. The project also published a series of research-based ideas and examples from the corporate world as blog articles on the MS2W Network portal.

By the end of grant phase I, the project was able to distinguish between high and moderately performing MLCs. The former were capable of integrating the MS2W practices into their existing system, moving closer to self-reliance. The latter group of MLCs struggled despite technical support from the project. They received little support from their administration, let alone incentives.

INSTITUTIONALIZATION BY DESIGN

In mid-2018, the project shifted to the cutting-edge, industrial approach of design thinking to design institutionalization. Design thinking is a human-centered, iterative process of complex problem-solving. The process begins with understanding the user's or stakeholder's needs – empathy with students, instructors, university administration, industry partners. The design team then ideates to prototype a solution before testing and iterating it.

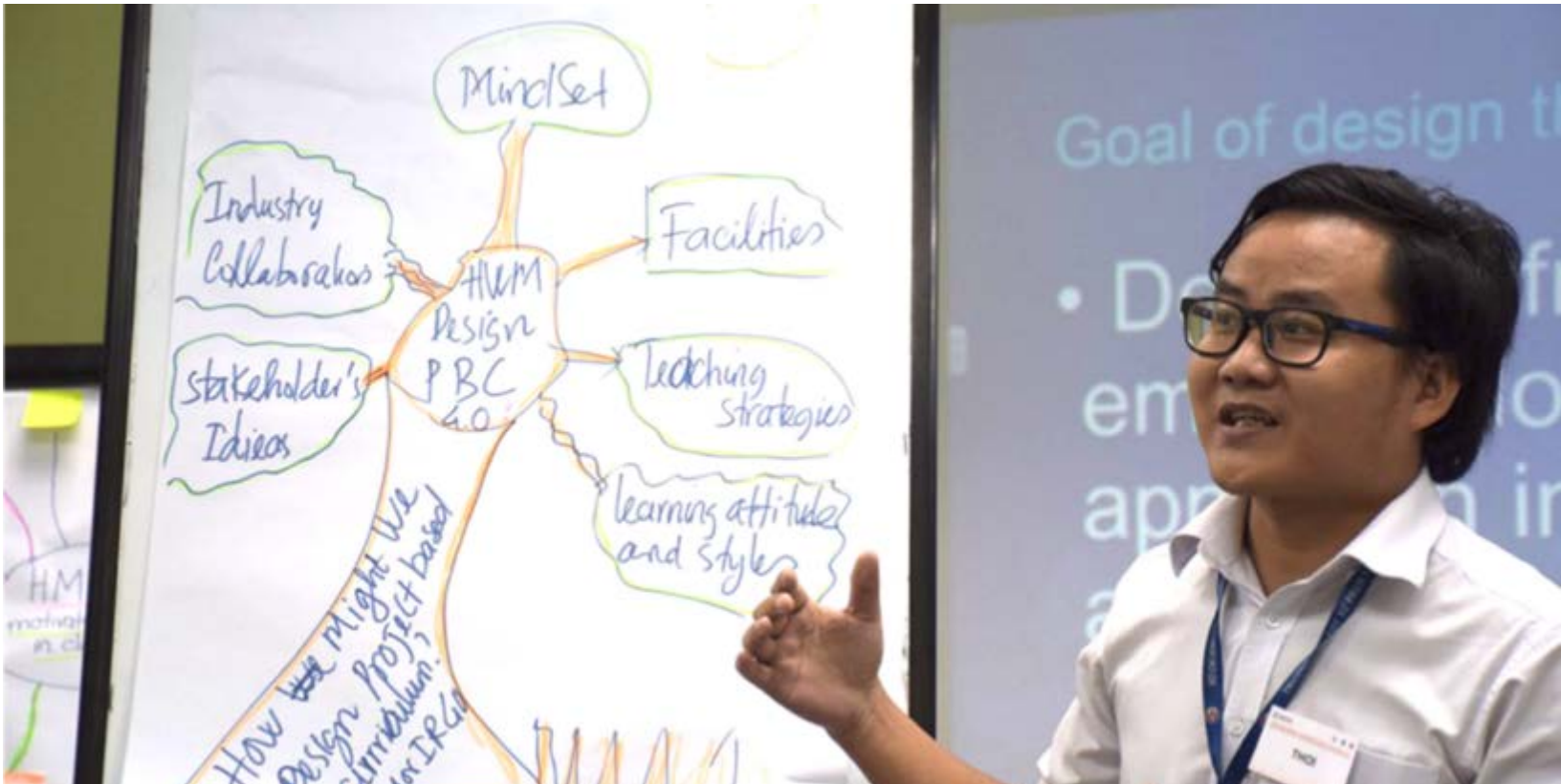
The choice of industry standard design thinking toolkits to solve the complex problem of institutionalization is a risk-taking decision. USAID-LMI COMET considered design thinking, widely used in the creative and tech industries, to be a natural follow-on to innovative instruction and active learning. The application of design thinking had a dual purpose.

First, design thinking allowed the MLCs to take ownership of the institutionalization process. It also allowed them and their stakeholders to collaborate and innovate around making the MS2W practice stick in their institution. Design thinking allowed MLCs to be creative and take into account the contexts of their institution.

Second, because design thinking is an innovative tool used not only by industry but also organizations in public service and education, applying it to the institutionalization of change in higher education provided MLCs with knowledge and practice of the application of a research-supported technique and skill in solving complex problems.

Each of the five high performing MLCs formed a design team comprised of an administrator, instructors, students, and industry partners. The project provided training workshops and webinars on design thinking. Their challenge was how to create the conditions under which the MS2W practices could stick in their college/university.

The MLC teams engaged multiple stakeholders to understand their needs, then design a solution that was desirable, feasible, and viable within the individual, institutional context. They tested it by sharing on the MS2W Network portal's workspace to solicit feedback from their peers in the network. Based on the feedback they iterated their prototype one or more times before implementing it. At the end, each MLC told the story of their MS2W institutionalization journey.



NEAR DESTINATION

INSTITUTIONALIZATION BEST PRACTICES

The results of institutionalization varied according to the capacity, commitment, and context of individual MLCs. Evident from early on, the MLCs that had the most support and engagement from their leadership produced the best practices in institutionalization, indicating the enhanced ability for self-reliance.

HUE INDUSTRIAL COLLEGE (HueIC)

For HueIC, the enabling conditions for sustainability are well in place – most notably the strong buy-in and engagement from leadership. Additionally, being a small technical vocational education training center (TVET) provided an optimal scale and organizational size for implementing a change model.

The HueIC MLC's solution places stakeholders as the key to the success of the MS2W model in improving student employability. The solution, with strong support from the administration, centers around strengthening instructor capacity through the expansion of professional development training coupled with a policy of providing incentives.

One hour of teaching by the MS2W-certified instructors counts as one and a half credit-hours, which translates into higher pay at the end of the semester.

The administration has adopted a large number of MS2W activities, including professional development, work-based learning, and innovation challenge as a college-wide policy for instruction. Other strategies to support MS2W institutionalization include strengthening engagement with industry partners, students, and alumni to support curriculum development, work-based learning, innovation challenge, and youth engagement activities. These activities are coordinated by the strong and committed MLC team and spread to all faculties.

UNIVERSITY OF TECHNOLOGY YATANARPON CYBER CITY (UTYCC)

In many ways comparable with HueIC, the enabling conditions of strong buy-in and commitment also exist at UTYCC. This MLC's solution aims to create an additional six conditions that make the MS2W innovation stick. These include creating an "Instructional Delivery Center" which functions to support, expand, and improve instruction through professional development workshops, online certification courses, and the provision of support for strengthening work-based learning and engaging youth and industry partners.

The UTYCC team also works to officially formalize the MS2W model as the university's instructional and partnership policy. Reflective of the university's dedication, the UTYCC team has made an effort to expand the MS2W model country-wide. As part of the institutionalization process, and in collaboration with DUE, UTYCC is adopting co-ownership and overseeing the operation of the MS2W web portal following the close of the project.

The application of deliberate and planned institutionalization and sustainability of change efforts in HueIC's and UTYCC's enhanced capacities and commitment indicates that these MLCs are well on their way to self-reliance, well ahead of their peers. The stories of their journey through the institutionalization of the MS2W model, told in their words, exemplify their effort and pride in their degree of achievement in solving their instructional development and delivery problems.

Institutionalization at other MLCs varied according to the presence of favorable conditions and what strategies they created to make the MS2W change stick. These included the adoption of POL, WBL and industry partnership as formal policy at HCMUTE and DUE. The practice of innovation challenge-based learning is active at HCMUTE, UD, and ITC. Some MLCs, such as MU and HUST, struggled to establish a professional development program within their university. However, these institutions are large enough with the existing capacity to sustain excellent benefits from the MS2W practices that suit their conditions. At smaller institutions, including USEA and NUOL, where the enabling conditions do not exist, teams struggled to institutionalize MS2W practices, though benefits were gained at the individual level.

Although USAID-LMI COMET's intervention aligned with MLC need, the MLCs' institutional capacity and commitment in relation to institutionalization were different. Institutions that demonstrated both strong buy-in from their leadership, as well as the active, ongoing engagement of leadership in the process, best adopted the model.

Not only the leadership, the task of institutionalization requires all stakeholders to participate in planning for making a sustainable change. The design thinking approach to embedding educational changes allowed for collaboration and co-ownership among multiple stakeholders, including industry partners and students. Through the application of this innovative approach, the project believed that the MLCs would significantly benefit from not only obtaining new cutting-edge skills for problem solving but also from taking the ownership of the project's sustainability.

LOCAL OWNERSHIP OF THE MS2W NETWORK MAKING IT SUSTAINABLE

The USAID-LMI COMET project has built the MS2W Network portal as a strong foundation for digitally sharing innovative instructional improvement program (the online professional development course and resources) and non-formal, student-centered learning methodologies (WBL and innovation challenge experiences), while at the same time, linking institutions in a network of learning partnerships.

As the project approached its final year, it sought out the clearest path to sustaining the MS2W model and network: finding a new host within the network. Through a collaborative selection process, the project selected UTYCC to take on full management of the MS2W Network portal and DUE as an intra-network partner institution that will co-manage the online professional development for the network members. The new portal hosting arrangements permit the continued use and sharing of the portal resources beyond the life of the project.

At the same time, USAID-LMI COMET has transitioned leadership and technical assistance roles to the MLCs through the creation of the network-wide expert teams - the regional network's resource people and promoters of change within their areas of expertise.

IMPACT & FUTURE FORWARD

MEASURING IMPACTS

KEY ACHIEVEMENTS

39 institutions
with instructors trained in the MS2W model across the region

1000+ instructors
trained on the MS2W teaching approaches

100% instructors
feel confident about their ability to apply new teaching techniques

1,500+
workforce development initiatives completed as a result of public-private partnerships

~6,000
graduates receiving new or better employment as a result of USAID-LMI COMET training

~66,000
students reached as a result of USAID-LMI COMET training

91%
students participated in improved internships

3.4+ M
interactions on social media platforms

USAID-LMI COMET developed the Performance Monitoring and Evaluation Plan (PMEP) as a tool for planning, implementing, tracking and documenting progress toward achieving objectives and expected outcomes. The PMEP put in place a system for ensuring the quality and validity of data collected on each of the performance indicators, generating up-to-date information that was useful for assessing performance, identifying gaps, and strategizing for improvements in activity design and delivery – all critical aspects of management decision-making. The PMEP also served as a guide for systematically tracking activity outputs and outcomes and for documenting good practices as well as unintended consequences, shared with key stakeholders for learning purposes.

The following USAID-LMI COMET performance monitoring indicators were selected to measure progress towards stated objectives at the activity, component, and sub-component levels. The performance monitoring indicators table in Annex II includes standard Foreign Assistance Framework (F-List) indicators for education and workforce development as well as customized indicators for tracking progress and accomplishments on specific activities. The table also specifies life of project (LOP) targets and achievements for each indicator, frequency of data collection for progress monitoring, method of disaggregation, and data sources.

INDICATOR 1 (OUTCOME): NUMBER OF WORKFORCE DEVELOPMENT INITIATIVES COMPLETED AS A RESULT OF USG PARTICIPATION IN PUBLIC-PRIVATE PARTNERSHIP (FORMER STANDARD INDICATOR #4.6.3-8)

LOP Target	LOP Result	% Achieved
1,389	1,515	109%

Workforce development initiatives are cooperative investments in human resources through training or retraining, with the objective of endowing workers with the skills needed to productively perform the tasks required for new jobs. Effective workforce development is directly dependent on the ability of multiple stakeholders to coordinate and collaborate on the development of public-private partnerships (PPPs) that improve STEM+AT workforce opportunities to meet labor market demands. For USAID-LMI COMET, this indicator was designed to monitor the progress and ability of the stakeholders in the development of:

(a) Any training or event in STEM+AT areas sponsored by USAID-LMI COMET that targeted individuals or facilitated improved workforce opportunities that resulted in potential or actual new opportunities for employment. This includes both TOTs delivered on the MS2W approach as well as classes delivered by MS2W-trained instructors.
(b) Connections and partnerships with LMI governments, educational institutions, ASEAN and private and public sector stakeholders in STEM+AT industries, such as multinational firms, local businesses, and small rural businesses, located in the countries of the Lower Mekong sub-region. This includes WBL activities such as work exposure and work experience implemented by MS2W-trained instructors.

The LOP target was reached since the third quarter of Year 4. As of the current third quarter of Year 5, **a total of 1,515 workforce development initiatives have been reported, exceeding the LOP target of 1,389 at 109%.** The majority of the results came in Year 3 through the end of Year 4, when the project launched its grant program with a focus on organizing a series of professional development trainings and workshops across MLCs. The project engaged over 1,000 newly trained instructors in over 45 trainings and workshops during the two phases of the grant program.

At the beginning of Year 4, the project started collecting data from the newly created WBL activities. Despite the delayed start, it was reported that over 60 instructors actively implemented WBL activities following WBL workshop roll out, with 100 new activities and counting. The most common activities implemented by instructors are small group-work observation, information interviews by students, and pre-internship briefings to students.

INDICATOR 2 (OUTCOME): NUMBER OF PERSONS RECEIVING NEW OR BETTER EMPLOYMENT (INCLUDING BETTER SELF-EMPLOYMENT) AS A RESULT OF PARTICIPATION IN USG-FUNDED WORKFORCE DEVELOPMENT ACTIVITY (STANDARD INDICATOR EG. 6-1, FORMERLY #4.6.3-2)

LOP Target	LOP Result	% Achieved
6,092	5,978	98%

This indicator is a proxy indication of the effectiveness of the training provided in workforce training programs and whether the skills taught are marketable in the local economy. Increased employment and employment quality improvement (e.g., income, stability, working conditions) were the primary goals of the workforce development program element. This indicator is crucial for identifying the contribution of improved workforce development to employment and economic growth. USAID-LMI COMET used the Graduate Youth Employment Survey (GYES) to measure improved employability in graduating post-secondary youth in the USAID-LMI COMET framework. GYES is originally a quasi-experimental impact evaluation that compares the difference in employment gains (the number of youth who gain employment after graduation) in an intervention group over time. This allows an estimation of the true effect of a project on job seekers.

The primary goal of this study was to analyze the gains in employment outcomes among USAID COMET's graduating students, starting with the 2016 cohort through the 2018 cohort, who studied in their MLC's respective faculties where MS2W-trained teachers work. In each cohort, the survey was conducted with the youth who graduated during August-October at pre-test and followed up with the same group as a post-test from January to March or six months after graduation. The comparison of the employment gains between baseline (2016 graduates), midline (2017 graduates), and endline (2018 graduates) was subsequently analyzed, using the baseline as a comparison group to assess whether the employment outcomes among MLC youth had improved overtime in the area of new[3] and better employment.[4]

When comparing findings from endline to baseline using baseline as a comparison group, **2018 youth who graduated two years after the beginning of the COMET intervention in 2016 achieved better employment at a higher percentage (0.9%) than youth in the baseline**. The highest areas of improvement reported at the endline were finances and job demands. Even with this small increase, it can still be explained that project interventions seem to be supporting youth in achieving new and positive employment. Continued implementation of the interventions will likely enhance youth employability.

[3] **New employment** refers to graduate who reported unemployed at pre-test or graduation time, and became employed at post-test – 6 months after graduation.

[4] **Better employment** refers to any change that improves the formality of the job, increases safety, increases job satisfaction, reduces work hours or days, or decreases the number of jobs held.

NUMBER OF YOUTH WITH NEW OR BETTER EMPLOYMENT			
FISCAL YEAR	2017 (Baseline)	2018 (Midline)	2019 (Endline)
PERCENT	37%	54.5%	42.9%
NUMBER	2,358	3,383	2,595
DISAGGREGATIONS			
SEX	1,839 Males; 519 Females	2,974 Males; 409 Females	2,207 Males; 386 Females
URBAN/RURAL	1,122 Rural; 1,236 Urban	2,229 Rural; 1,154 Urban	1,351 Rural; 1,244 Urban
AGE	2,224 Ages 20-24; 120 Ages 25-29; 14 Other	2,564 Ages 20-24; 798 Ages 25-29; 20 Other	2,192 Ages 20-24; 354 Ages 25-29; 49 Other

Figure 11: Overall Results of the Graduate Youth Employment Survey

INDICATOR 3 (OUTCOME): NUMBER OF REGIONAL TOOLS, TRAININGS, OR PLATFORMS DIRECTLY DESIGNED TO PROMOTE WOMEN'S ECONOMIC EMPOWERMENT AND/OR PREVENT VIOLENCE AGAINST WOMEN (RDMA CUSTOM INDICATOR #IR 1.2 PM 3)

LOP Target	LOP Result	% Achieved
3	3	100%

Improving women's economic empowerment within the STEM+AT sector was important to USAID-LMI COMET, and the project made a concerted effort, along with its private partners, to implement several trainings and activities directly focused on promoting or strengthening women's economic empowerment. Since 2016 when this indicator was added to the PMEP, the project has completed **three major gender-related events that significantly empower women in the STEM areas**. These events include: the Celebration of Women in Technology in 2016, the MS2W Leadership Summit in 2018 with a session devoted to women's participation in STEM and their major contributions to the MS2W network, and the #MekongMyWay regional communication campaign in 2019 aimed at promoting an inclusive society by showcasing female students and professionals in STEM fields. The winners of the #MekongMyWay campaign received career counseling, mentoring, and funding opportunities from the project's partners. The event received visibly wide attention from students across the Lower Mekong countries.

INDICATOR 1.1 (OUTCOME): NUMBER OF NEW USER REGISTRATIONS ON THE REGIONAL MEKONGSKILLS2WORK NETWORK PORTAL

LOP Target	LOP Result	% Achieved
8,121	6,881	85%

This indicator was designed to capture one of the key project deliverables – the MS2W Network Portal – and how this platform engaged with the project's main stakeholders: instructors, students and industry partners.

Following the portal platform's conception in early Year 3, the project initially estimated that approximately 8,121 new registrations (comprising 401 instructors and 7,720 students) would have been reached in the remaining years of the project. Registration results in Year 3 slowly increased by 120 new registrations on average per quarter, along with the

users' moderate satisfaction gathered via the Portal user experience survey. In response to feedback and inputs received from the users, the project took a few key measures, including customizing the portal's content and its functionality, in order to boost user's interest and use of the portal services. The project also created more interactive features and integrated various contents to foster youth engagement, including SkillsRock, a value-added service for skill profile development starting August 2018. In Year 5, MLC instructors continued to promote the portal to their network of instructors and encourage their students to use SkillsRock to create skill profiles during the work-based learning activities, on top of project staff's limited onsite promotional visits.

Through periodical reviews of the progress of this indicator, it was found that the MLCs faced a few challenges that hindered the ability to engage large number of students to use the online services. These challenges included inadequate communications among the instructors about the importance and benefits that the students could gain from using the portal, internet connectivity issue (for some locations), students' limited access to proper mobile phones, and the issue of students' mistakenly opting out before completing their registrations as reported by 3 institutions (HUST, ITC and NUOL). Given these challenges, a lower LOP target would have been more realistic.

INDICATOR 1.2 (OUTCOME): NUMBER OF NEW PAGE VIEWS ON THE REGIONAL MEKONGSKILLS2WORK NETWORK PORTAL

LOP Target	LOP Result	% Achieved
314,345	271,081	86%

Similar to indicator 1.1, indicator 1.2 was designed to measure the interaction of the Portal's registered users on the site since its inception in Year 3. It is worth noting that the result of this indicator is highly related to the volume of new user registrations as well as the online courses and major communication campaigns such as innovation challenges and MekongMyWay. In Year 3, the interactions, defined as the site's page views, were moderate with over 10,800 page views occurring on average in each quarter of Year 3. Of note, from Year 4 onwards, page views largely surged due to key project activities taking place, together with the project's effective use of the Portal as its main promotional site for MLCs and their partners. This strategy boosted page views to over 32,500 on average per quarter from Year 4 onwards.

INDICATOR 1.3 (OUTCOME): NUMBER OF USER INTERACTIONS ON USAID-LMI COMET SOCIAL MEDIA SITES

LOP Target	LOP Result	% Achieved
2,000,000	3,402,335	170%

The project initially designed this custom indicator to measure the online interactions of MS2W Network members before the formation of the Portal. This indicator looked at the interactions within various social media channels under USAID-LMI COMET and LMI. Over the last five years, the result by year has increased exponentially, growing from approximately 18,000 in Year 1 to 61,400 in Year 2, to 600,000 in Year 3 and Year 4 consecutively, and finally to over 2 million interactions in Year 5. **The LOP result is 3.4 million, over 170% of the LOP target of 2 million.** The strongest advantage of this indicator is that it describes the level of attention and interest from the targeted groups, i.e. instructors and students, within and beyond the MS2W Network, in project activities and related social media

campaigns. Having this indicator in place helped USAID-LMI COMET learn the general perception of its audience on a particular activity or event, so the project team could then adapt accordingly to suit their interests.

INDICATOR 2.1: NUMBER OF NEW INSTITUTIONS WITH INSTRUCTORS TRAINED IN INNOVATIVE APPROACHES TO TEACHING STEM+AT COURSES

LOP Target	LOP Result	% Achieved
15	39	260%

This indicator aims to measure the number of vocational schools and universities that offer quality STEM+AT education that match the skill needs and demands of employers in the Lower Mekong sub-region. In the first year, 16 institutions participated in USAID-LMI COMET's TOT and Tech Innovation workshops, including the five EAIs who tested the project's model. When the MS2W Network was established in 2016, some of those institutions along with 3 (three) new institutions were recruited as MLCs and adopted the MS2W Sourcebook as key guidelines to deliver quality industry-relevant courses to their students.

Back then, the project aimed at expanding to only three new institutions (Mekong Partner Institutions or MPIs) in Cambodia, Laos, or Myanmar. Due to the high demand in Myanmar and the enthusiasm of UTYCC to share USAID-LMI COMET's innovative teaching approach, UTYCC started planning the expansion of the MS2W model with the first 20 universities in science and technology across the country. These universities met the MS2W model with an overwhelmingly positive response, demonstrated by the interest in the first two-day MS2W Sourcebook orientation in October 2018, which was attended by 50 new instructors and administrators. This new addition of 20 MPIs increased the total of active institutions with instructors trained in the MS2W model to **39 institutions**.

INDICATOR 2.2: NUMBER OF NEW INSTRUCTORS/TRAINERS THAT RECEIVE TRAINING IN INNOVATIVE APPROACHES TO TEACH IN-DEMAND SKILLS IN STEM+AT AS A RESULT OF USG ASSISTANCE

LOP Target	LOP Result	% Achieved
502	1,039	207%

This outcome indicator aims to measure the output of the key receiver of USAID-LMI COMET professional development activity – the number of instructors trained across MLCs. The majority of trained instructors came between the end of Year 3 and Year 4, when the intensive three-stage professional development framework was fully implemented by the first 50 trained lead instructors. Since then, **a total of 1,039 new instructors have been trained on the MS2W approach**. Despite the end of the USAID-LMI COMET project, most MLCs have stated that they will continue their commitment and engage new instructors, both within their university and in their partner universities.

INDICATOR 2.3: NUMBER OF NEW STUDENTS REACHED AS A RESULT OF USAID-LMI COMET TRAINING

LOP Target	LOP Result	% Achieved
81,514	65,974	81%

This outcome indicator was initially designed based upon the cascade approach. The Year 3 workplan shifted emphasis away from a massive student reach of 250,000 to 81,514, so that MLCs had more time for mastery, growth, ownership and institutionalization. By the final quarter of Year 5, which was before new student intakes of some MLCs, the total result is **65,974, or 81% of the LOP target**. With the continuity of the MS2W model implementation in the MLCs and the model adoption in the MPIs, the number of student reach will most likely grow beyond the life of the project.

INDICATOR 2.4: PERCENT OF MS2W PARTICIPANTS WHO IMPROVE THEIR SELF-ASSESSED PROGRESS TOWARDS THE IMPLEMENTATION QUALITY STANDARDS

LOP Target	LOP Result	% Achieved
80.0%	100.0%	125%

This custom indicator aims to capture the quality aspect of the MS2W model implementation and application among MS2W trained instructors over the course of the project, using the detailed implementation quality standards embedded in every MS2W Sourcebook toolkit. Since the beginning of the assessment, instructors generally had a good understanding of the MS2W approach and, in general, evaluated themselves high, at 75%, when the implementation first started. Impressively, after a few years of implementation, the same group of instructors assessed themselves progressively more positively, at 92% and then **100% in the final year**. With these results in mind, it can be concluded that those who have received training feel fully confident in their competency to apply the model in their teaching after using the model regularly for a few years, and the project's decision to deepen the competencies of the MLC instructors for sustainable scale is reasonable.

However, aside from a general self-assessment survey, there needs to be a continuation of other means of assessment such as class observations and testing of trained instructors to ensure that the quality of the MS2W model is wholly captured in this indicator. More time and resources would be needed to strengthen this indicator to the next level in a future education project.

INDICATOR 2.5: PERCENT OF STUDENTS PARTICIPATING IN QUALITY INTERNSHIPS

LOP Target	LOP Result	% Achieved
42.5%	91.0%	214%

USAID-LMI COMET encouraged its MLCs to deliver quality internships that contribute to student growth. While most MLCs already encouraged students to participate in internships, USAID-LMI COMET strove to improve the quality of these internships. This indicator allows USAID-LMI COMET to track whether the incidence of quality internships increased over time through implementation of WBL activities along the MS2W WBL continuum that aimed to improve students' employability and to strengthen MLC partnerships with local industries. The source of data is graduating students who participated in GYES and answered a set of questions on quality internships. To be qualified as a quality internship, at least one of the following must have occurred: a) Students documented their experience in a logbook; b) Students received a visit from an instructor at the internship; or c) Students received supervision from someone at the internship employer. Targets were set based on baseline data from the GYES data collection. (Unweighted sample data onto the population of MLC students suggested that 30% of students participated in a quality internship before graduation.) The project expected to see 10% increase over the baseline by FY2018 and 15% over the baseline by FY2019.

The results from 2017 onwards show that the percentage of students with quality internships has been on the rise. In 2017, 66.8% of graduating students from GYES reported that they had participated in quality internships. For 2018, when WBL started to be fully implemented across the MLCs, the results showed that 85.9% of 2018 graduating students said they had quality internships, much higher than the anticipated target. In 2019, 96.1% of 2019 graduating students confirmed that they had quality internships, doubling the anticipated target. **Across the two years (2018-2019), 91% of graduating students who had internships participated in quality internships.**

There may be other factors—beyond the MS2W WBL approach—that improve the quality of internships, so numbers reported cannot be directly attributed to USAID-LMI COMET. However, it appears that the project's WBL approach has worked well on the ground and as a result, participating students are now better prepared for work.

THE JOURNEY CONTINUES

After five years of implementation, the USAID-LMI COMET project met its development objectives and developed a viable model for improving the in-demand skills of youth in the Lower Mekong subregion. Through the MS2W model, USAID-LMI COMET strengthened the capacity and commitment of thirty-five universities and three vocational centers to increase the number of skilled workers for high-growth industries in the Lower Mekong subregion.

The project's professional development practices empowered 132 instructors in 3 vocational centers and 907 instructors in 36 universities to deliver relevant training in order to prepare current and future generations of STEM+AT workers to address development challenges and economic disruptions in the subregion and beyond.

The project collaborated with 10 multi-national private sector partners and US-based institutional partners in leveraging technologies and resources for the inclusive, skilled workforce development. Through work-based learning and partnerships-related toolkits, the project helped connect and improve linkages between the education institutions and the local/regional private sector to close the gap between the skills taught and the skills required to effectively carry out STEM+AT jobs. Additional interventions tested and implemented by the project, like the innovation challenge model and the Youth Engagement Toolkit, improved skills and competencies so that youth can become more competitive and integrated in the innovative economy.

In total, 1,515 workforce development initiatives were implemented following the MS2W model, reaching nearly 66,000 students in the Lower Mekong countries. If sustained and expanded throughout the subregion, the suite of the project's interventions will ultimately facilitate skills parity and the global competitiveness of the Lower Mekong subregion.

From the collaborative effort towards institutionalization and expansion, the project and participating education institutions found that one of the key conditions supporting the institutionalization of the project's primary intervention – the MS2W model – is *leadership's strong buy-in and support*.

Instructional improvement, especially following the MS2W model, is a necessary condition for skilled workforce development and the project intervention that was most institutionalized by MLCs. The form and the degree of institutionalized instructional change varied from MLC to MLC. For examples, the Center for Instructional Delivery was prototyped by UTYCC, the Professional Development Program by MU, the Professional Development Center by NUOL, and the Project-Based Learning campaign by HCMUTE. These centers were designed to formalize and operationalize instructional change using, not only the MS2W Sourcebook toolkits, but also other instructional approaches. Other MLCs, like HUST, integrated the MS2W instructional approach into their existing tradition of new instructor induction, operated by the Center for Quality Assurance.

The project offered a tool for strengthening industry partnerships by setting up an industry advisory committee. HCMUTE, HueIC, UTYCC and MTC effectively institutionalized advisory committees or improved the operations of existing committees. HCMUTE also established its Industry Relations Office to engage industry. Other MLCs, for example, HUST and ITC, UD, DUE, USEA, and NUOL, integrated industry partnership activities into their existing structures in which individual faculty members have contacts or cooperation with specific companies.

In terms of work-based learning, the MLCs with strong leadership support received the most benefit from these offerings. These MLCs include HueIC, UTYCC, and HCMUTE where work-based learning has been well integrated into the various curricula and become standard practices institution-wide. In 2018, the improvement in instruction and work-based learning resulted in 60 HCMUTE students securing jobs before they graduated and 97% gaining employment within six months after graduation. HueIC and UTYCC achieved similar results.

The introduction of innovation challenge-based learning also generated much enthusiasm among youth. Student teams from HueIC, UD, DUE, HCMUTE, ITC, and UTYCC won several national, regional and global awards for their innovation challenge solutions to real-world problems during 2017-2019. Even the novices at design thinking and innovation competitions, like USEA and NUOL, learned from the MS2W innovation challenge process and successfully developed solutions to real issues found in their communities. These successes have led several MLCs, namely HCMUTE, HueIC, HUST, ITC, MU, UD, and UTYCC, to integrate innovation challenges into their curricula or student activity calendars.

After the project extended engagement and support to its ultimate beneficiary – the youth – they participated in various activities including innovation challenges, communications, work-based learning, and institutionalization of the MekongSkills2Work model. These activities not only drew proactive, positive involvement from youth but also cultivated leadership, organizational, coordination and collaboration skills that they will need to succeed in the 21st century workplace. Experiencing direct benefits from these activities, youth representatives from DUE, HCMUTE, and NUOL recruited student peers for future activities to be created following the MS2W Youth Skills2Work Toolkit.

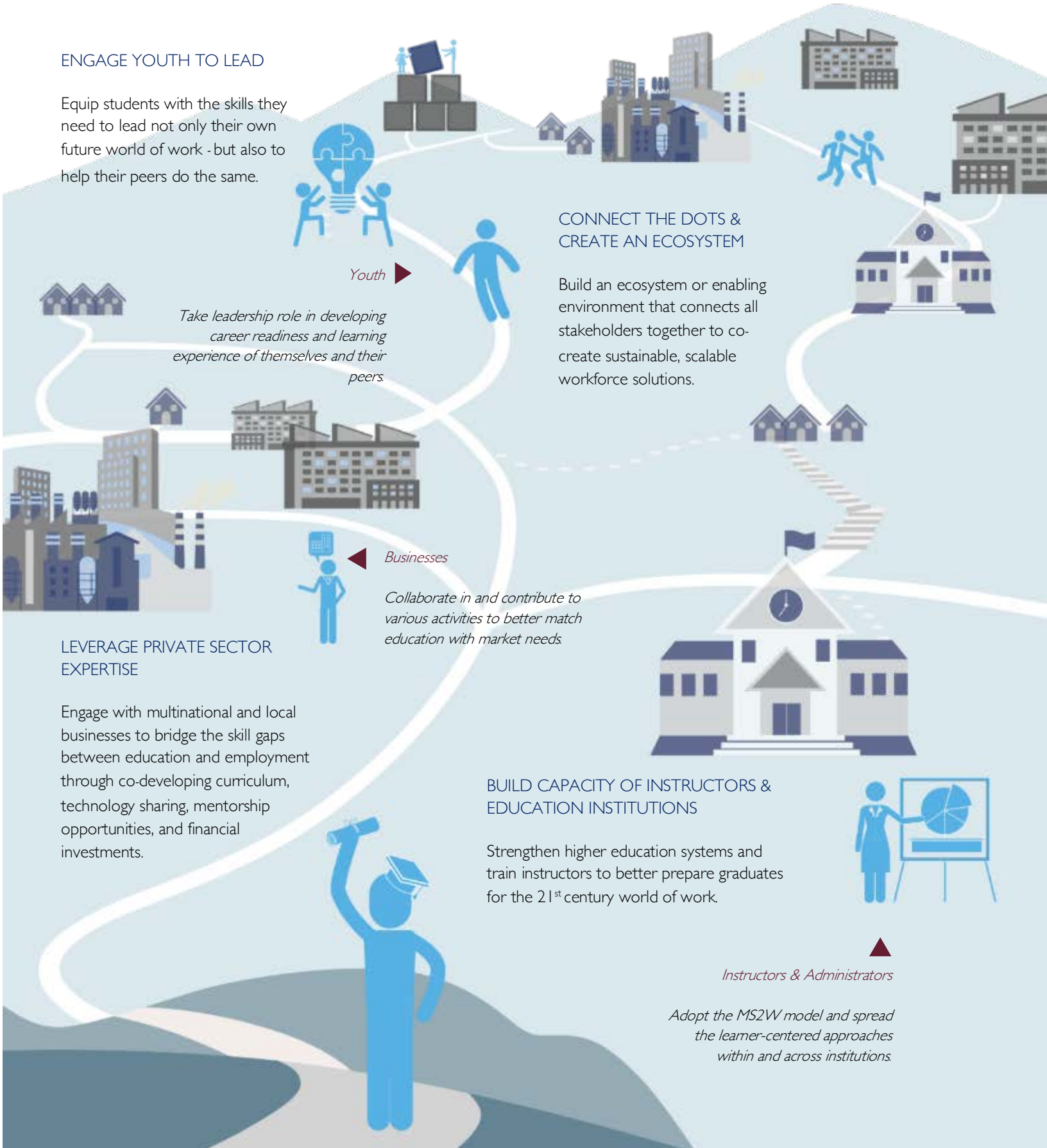
"After the end of the USAID-LMI COMET's Grant Program, HCMUTE will definitely continue to apply the MS2W approach because the MS2W approach is professionally designed.

The MS2W toolkits are very helpful to instructors, institutions and ultimately students and industry. In general, they bring benefits to all stakeholders. HCMUTE appreciates all activities in the MS2W such as Professional Development, Work-Based Learning, Project-Based (Oriented) Learning, and Innovation. The MS2W portal is an informative and helpful platform for instructors to share their best practices and learn best practices from their peers in the same institution and in other institutions as well. It also provides a platform to track students' skills and job-seekers and industry.

For the wide range of benefits the MS2W brings, HCMUTE commits to use it for sustainable development," – HCMUTE Administrator affirmed in the Grant Final Report.

The USAID-LMI COMET project's journey comes to an end in October 2019, but the journey of the project's partner education institutions, and their countries, toward skills parity within ASEAN and economic self-reliance will continue. Now that the project has transferred knowledge and tools to motivated, skilled instructors and administrators, these change-makers will be the ones to sustain and spread USAID-LMI COMET interventions, taking on the mission of developing a workforce with critical skills sought after by employers in the Lower Mekong region and beyond. The extent that the impact of the project's interventions will reach now depends on the capacity and commitment of these stakeholders and their institutions to make this change stick and grow. Sustainability depends on these stakeholders becoming self-reliant agents of change.

JOURNEY TO SELF-RELIANCE FOR BUILDING A BETTER SKILLED WORKFORCE



ENGAGE YOUTH TO LEAD

Equip students with the skills they need to lead not only their own future world of work - but also to help their peers do the same.

Youth

Take leadership role in developing career readiness and learning experience of themselves and their peers.

CONNECT THE DOTS & CREATE AN ECOSYSTEM

Build an ecosystem or enabling environment that connects all stakeholders together to co-create sustainable, scalable workforce solutions.

LEVERAGE PRIVATE SECTOR EXPERTISE

Engage with multinational and local businesses to bridge the skill gaps between education and employment through co-developing curriculum, technology sharing, mentorship opportunities, and financial investments.

Businesses

Collaborate in and contribute to various activities to better match education with market needs.

BUILD CAPACITY OF INSTRUCTORS & EDUCATION INSTITUTIONS

Strengthen higher education systems and train instructors to better prepare graduates for the 21st century world of work.

Instructors & Administrators

Adopt the MS2W model and spread the learner-centered approaches within and across institutions.

LESSONS LEARNED AND RECOMMENDATIONS

PROJECT IMPLEMENTATION

1) To set a common understanding and ensure stakeholder ownership of the intervention, both stakeholders and ultimate beneficiaries must be involved in program development from the beginning. USAID-LMI COMET engaged stakeholders and beneficiaries directly and continually throughout the change process, although not in the project design, to ensure sustainability of the intervention.

2) Adaptive management and flexibility are crucial for project management and implementation. When realizing that something does not work as expected, project implementers need to change and adapt the way they work in order to meet the project's ultimate objective. Some activities or approaches should be tailored to fit the context or the actual demand of the beneficiaries. The project did this regularly throughout the implementation period.

3) It is critical to prove the intervention concept and its viability before trying to scale. Through M&E data collection, collaboration and learning from beneficiaries, USAID-LMI COMET made evidence-based decisions to determine what works and what does not. Before full implementation, the project took steps to prove each program activity was practical and useful for its beneficiaries. This practice is consonant with the concept of USAID's implementation strategy known as Collaboration, Learning and Adaptation (CLA). This approach supports flexibility in programming and evidence-based decision-making. By using this approach, the project was able to continuously fine-tune its program, keep stakeholders and beneficiaries engaged, and adjust the allocation of scarce financial and other resources to continually maximize impact and relevance. Ultimately, this helped to more clearly define each participating stakeholders' journey to self-reliance. Importantly, the project's experience applying the CLA strategy helps to improve development outcomes.

4) It is important to consider both time and resource factors in order to set realistic expectations of a project's scope and scale. With only five years and a budget of $10 million US for implementation in five countries, it was difficult for USAID-LMI COMET to attain the desired broader impact on long-term workforce readiness in the Lower Mekong. USAID-LMI COMET should therefore be seen as a proof-of-concept project.

5) One of the most common errors in implementing a sharing approach (often called the cascade approach) is that those who share the initiatives are not fully prepared to do so with an acceptable level of quality and mastery of what is to be shared. Therefore, each time sharing takes place, there is less control over quality and consistency, risking transferring a "watered down" version of the original. To avoid this repetitive failure, USAID-LMI COMET focused on "depth" over "breadth." The project provided more time and support for capacity building for the MLCs, to better enable them with the necessary content knowledge, training skills, and confidence to institutionalize the COMET model within their respective institutions before sharing with others. This focus shift in USAID-LMI COMET's delivery strategy did not abandon an intention to scale the model but aimed to invest more time in foundational capacity building to set the stage for significant quality and spread, ownership and sustainability. These are the dimensions associated with real change and the adoption of innovative models, the goal of the project, rather than only looking at scale from a number's perspective.

6) Building trust is critical for program implementation and sustainability. USAID-LMI COMET invested heavily in building strong partnerships with the MLCs, which in return has led the project to achieving its program objectives. For instances, the project team built solid personal relationships with the core members of the MLCs and supported them in demonstrating excellence in their work. One-on-one and small group technical assistance were provided to the instructors as well as the expert teams, to ensure they could achieve their own transformation outcomes and were well-prepared for model expansion. Healthy personal relationships cultivated trust from them, which helped smoothen communication, information sharing, and conflict management over the course of the project. Thus, for any development projects, it is critical to ensure sufficient personal, face-to-face interactions with key stakeholders to build trust.

INSTRUCTIONAL DEVELOPMENT

1) The decision was made early on by USAID to have all project materials be in English, as the lingua franca in the region and an increasingly critical language as economies become integrated. However, English became a barrier for instructors at the MLC level. Expecting English proficiency proved to not be realistic when training extended at this level. The project suggested that MLCs could translate the materials on their own. While there was some translation into Vietnamese, for the most part MLCs could not afford to translate the volume of content, and did not find creative solutions to do so. For future projects in the Lower Mekong subregion, the project suggests translating materials into local languages so that the instructors are able to understand content clearly, which would help them to be more confident with the application of the toolkits in their courses.

2) Ongoing participation in instructional coaching was predicated on support from each institution's leadership – if instructors did not know that they were expected to participate, they were hesitant to engage in the activities. Instructors need to know that they are expected to participate in workshops and coaching sessions. Ideally, incentives should be put in place to encourage this. These are lessons for all MLCs, especially at universities where incentives prioritizing research trump any incentive to improve teaching practice.

3) Taking coaching to scale will not only require bolstering skills of institution-based coaches but also working with university administrators to help them understand the value of high-quality instruction and link this to producing graduates who are in-demand, making quality instruction a valued part of their brand. Buy-in is a huge challenge for scaling up. Regardless of the quality or enthusiasm of coaches, coaching won't impact instructional practice if good instruction is not valued, if instructors are not pushed to participate in or supported during this process, if instructors are not invested in or comfortable with the coaching process, or if this process is not expanded beyond a department to the institution itself.

4) There are systemic challenges that one project alone simply cannot address. Higher education in the Lower Mekong is characterized by huge class sizes, instructors teaching many classes, often with added leadership responsibilities. Instructors are very, very busy. Expert team members required written confirmation that they would have reduced workloads or increased pay to take on project-related duties. When looking at these challenges, it can be said that it is ultimately up to the leadership and how the MLC manages its human resources to take instructional development forward.

PRIVATE SECTOR ENGAGEMENT

1) Establishing sustainable partnerships is a step-by-step process that involves trust-building and an ongoing exchange of information to identify opportunities that meet the mutual interests. Although building relationships takes time, once connections are established, they will continue to develop and evolve from project-led to co-created engagement.
2) Due to the capacity and limited time of the instructors, they would respond better to a process with fewer steps. A structured focus on small activity steps per semester so that the coordinator and instructors know what is expected of them, such as a focus on work exposure (observation and interviews) as a method for better preparing students for the workplace, would be easier to implement.

INNOVATION CHALLENGES

1) The innovation challenge model has the potential to foster and improve technical and work-readiness skills. Student feedback showed that most students understood more about engineering and design after participation in the event. They also felt more confident about their ability to solve problems. Similarly, their collaboration and time management skills improved after the event.
2) The innovation challenge is a great opportunity for education institutions to engage the private sector in several roles: as team mentors, judges, or resources for informational input. Industry engagement throughout the design process is important as it provides students with insight into the importance of designing for the end users.

YOUTH ENGAGEMENT

1) Communicating through social media is best among youth.
2) Flexibility and adequate guidance and resources encourage customization of youth-led activities. This creates a stronger sense of ownership among youth organizing events. Tailored events are more engaging for the participants.

REGIONAL INTEGRATION

1) The competitive procurement process limited the diversity and geographic coverage of the project's network. The process and acceptance criteria favored institutes with good English-speaking capacity and well-established infrastructure, mostly situated in urban areas. To reach institutes in rural areas or expand the network, collaboration with governments of the LM countries from the procurement stage is recommended.
2) The use of English as the lingua franca in tools, materials, and training workshops for the Lower Mekong subregion is not an efficient approach, especially if a project would like to reach more remote areas. Even in higher education institutions in urban areas, instructors and students have limited English proficiency. The subregion's linguistic diversity made the regional integration of project initiatives challenging; more solid integration took place at the country level.
3) Virtual connection and long-distance support were challenging, although the project was able to draw a large number of instructors and students to the MS2W Network portal and provide regular support to the MLCs by developing a more structured methodology. More opportunities for the MS2W Network members to gather and

exchange as a physical network and on-site support visits would have laid a stronger foundation for program activities and regional network.

INSTITUTIONALIZATION

1) Engaged leadership and vision at the institutional level is critical for sustainability. Leaders need to be involved to the degree that instructors know that changes are expected and supported. Champions with influence are key. Although USAID-LMI COMET made continuous efforts to obtain strong buy-in, but overall success of making the MS2W change a feature of the institution's approach to learning depends not only on the project's strategy but also on a partner institution's vision, goals, and organizational culture. For future initiatives, a thorough review of institutional policies towards active learning during the application process will help ensure the selection of institutes that support the implementation of project activities.

2) USAID-LMI COMET approached change management with the language of institutionalization, which can be abstract, elusive, and difficult to understand – especially for non-native English speakers. At times, this distracted decision-makers from the need to manage change and sustain the intervention. In retrospect, USAID-LMI COMET should have made its approach to change management more concrete and manageable, focusing on teaching leadership about how to create, manage and sustain instructional change.

3) USAID-LMI COMET approached institutionalization from the start, but this did not always translate into action. In reality, there were a number of challenges and unforeseen situations with which the project had to cope. For example, the NUOL team took a long time to gain momentum because of the idle stance of their administration on adopting the model. Three MLCs had either significant turnover in their core teams or a lack of engaged leadership and essentially had to start over in Years 4 and 5.

4) In some countries, like Vietnam, government education priorities and policies aligned with those of the project: COMET provided a solution to a challenge that they had already identified. Unfortunately, since USAID-LMI COMET could not work directly with the LM governments, it was difficult to impact education policy. Although USAID-LMI COMET invited government officials to participate in events and activities, this did not explicitly address the need to integrate the project's approach in education policies or curricula. For future initiatives, USAID and the implementing partner should work more closely with local government from the beginning. Though partnering with local governments is complex and bureaucratic, an intervention cannot affect long-term change in education systems without the engagement of the ministries in charge.

5) Although most faculty and staff in higher education have direct experience with change efforts that failed to institutionalize, many still did not have a clear idea of how they could institutionalize the MS2W approach beyond expanding training workshops.

6) Although the task of institutionalization requires all stakeholders to participate in planning for making change a success, in practice, the administrator is often left to work alone on institutionalization planning because others think it is their sole responsibility. As such, a collaborative effort towards institutionalization was difficult to achieve. USAID-LMI COMET tried to resolve this by shifting to a design thinking approach that allowed for collaboration and co-ownership among multiple stakeholders, especially industry partners and students. This innovative approach to embedding and fostering the sustainability of change in education and workforce development proved to be successful in the pilot MLCs, thus the project recommends the replication of the approach in future development initiatives.

PROJECT OPERATIONS

1) Regionalization of project operations raises significant challenges to effective implementation due to differing national contexts, cultural traditions, levels of development, laws, regulations and work styles. Testing operational systems, processes and procedures in each context is critical to tailoring operational interactions to each unique context. It also puts additional stress on project resources and personnel. The project was challenged to create innovative ways to effectively operationalize project activities in each member-country. The work requires collaboration with a wide variety of counterparts including governments, academics, businesses, students and non-government organizations. The quality of the relationships is very important for setting a good foundation for sustainability of U.S. Government investments in the Lower Mekong region.

2) To maximize the efficiency of budgetary resources, the project used creative approaches. For example, project staffing was specifically tailored not only to project operational requirements (finance, procurement, technical, etc.), but also synchronized to the targeted stakeholders and beneficiaries. As a result, the number of full-time project staff was small (13), with a mixed profile in terms of age, level of experience, and background. A conscious effort was made to recruit staff that could relate to stakeholder and beneficiary constituencies and their lifestyles. Experiential deficiencies were augmented with on-the-job mentoring support. Teamwork became the modus operandi for adjusting project technical programming activities. An evidence-based approach was used for adjusting program direction. With a limited staff size, all staff were asked to work both as a member of the project team and as a focal point for each education institution or grantee, as well as independently when carrying-out task specific duties. Delegation and accountability became key to operational efficiency. The project made extensive use of cost-effective staffing opportunities such as the engagement of project interns, both for support in the project office in Bangkok, as well as in each of the five member-countries. This gave the project the opportunity to provide some back-up support in the Bangkok office, and direct project staff support in each of the countries where full-time project staff could not be employed.

3) Due to the project's geographic footprint, the project developed online mechanisms to communicate with project stakeholders and beneficiaries in the five member-countries. Webinars and online chats were used extensively to provide operational and technical support and collect feedback and inputs. This operational system was separate from the project's online portal, but that was also used for operational needs, especially when the project began to transition operations away from the project to project stakeholders. This allowed the project to reduce the amount of project travel and still maintain close links with all the countries.

4) Funding uncertainty exacerbates efforts to effectively plan and resource project programs and activities. It disrupts the pace of project implementation and the delivery of key project outputs. The project was able to make the necessary adjustments during the course of implementation to meet project deliverable requirements, but these uncertainties do have a strong impact on programmatic rollout.

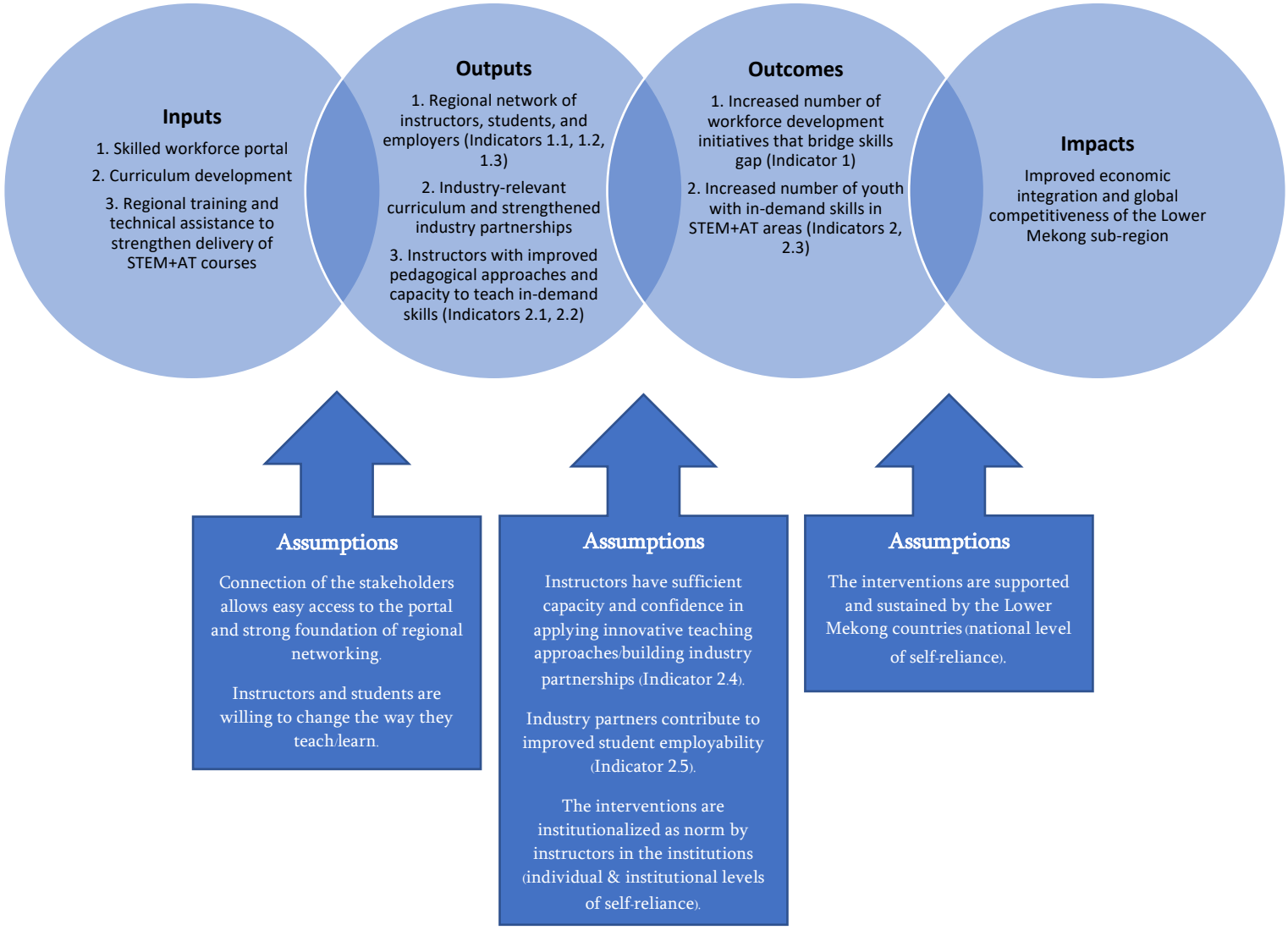
FINANCIAL SUMMARY

FINANCIAL SUMMARY

CLIN	Activity	Total Approved Budget for LOP	Total Actual Expenses thru 6/30/2019	Estimated Actual Expenses 7/1/2019 - 10/5/2019	Total Estimated Actual Expenses thru 10/5/2019	Balance of Awarded Amount
1	Component 1: Curriculum Development and Skilled Workforce Portal	$2,469,293.00	$2,215,111.47	$50,883.95	$2,265,995.42	$203,297.58
2	Component 2: Training Today's Workforce (Vocational)	$4,940,132.00	$3,278,566.05	$186,899.73	$3,465,465.78	$1,474,666.22
3	Component 3: Developing Tomorrow's Leaders (Higher Education)	$4,988,008.00	$4,771,664.23	$367,863.30	$5,139,527.53	($151,519.53)
	Contract Ceiling Price (Plus Fixed Fee)	$12,397,433.00	$10,265,341.75	$605,646.98	$10,870,988.73	$1,526,444.27

ANNEXES

ANNEX I: THEORY OF CHANGE



ANNEX II: PERFORMANCE MONITORING INDICATORS

Indicator	FY 2015		FY 2016		FY 2017		FY 2018		FY 2019		LOP Target	LOP Result	% Achieved	Note
	Target	Result	Target	Result	Target	Result	Target	Result	Target	Result				
1. Number of workforce development initiatives completed as a result of USG participation in public-private partnership (former standard indicator #4.6.3-8) Unit of measurement: workforce development initiatives Disaggregation: none	6	6	63	80	336	203	656	439	328	787	1,389	1,515	109%	
2. Number of persons receiving new or better employment (including better self-employment) as a result of participation in USG-funded workforce development activity (standard indicator EG. 6-1, formerly #4.6.3-2) Unit of measurement: Number of STEM+AT learners Disaggregation: sex, age, rural/urban	0	0	0	0	Baseline	2,358	2,741	3,383	3,351	2,595	6,092[5]	5,978	98%	Disaggregated data: Midline 2,974 males; 409 females I Endline: 2,207 males; 386 females* Midline 2,564 aged 20-24; 798 aged 25-29; 20 aged other* I Endline 2,192 aged 20-24; 354 aged 25-29; 49 aged other Midline 2,229 rural; 1,154 urban I Endline: 1,351 rural; 1,244 urban (*Some numbers do not match the total numbers due to rounding error.)
3. Number of regional tools, trainings, or platforms directly designed to promote women's economic empowerment and/or prevent violence against women (RDMA Custom indicator #IR 1.2 PM 3)	0	0	0	0	1	1	1	1	1	1	3	3	100%	Disaggregated data: All 3 in women's economic empowerment theme

[5] All numerical targets for Indicator 2 were obtained by extrapolating from the weighted sample to the population of graduating youth at baseline in 2017 (2,358 persons or 37% of the graduate population receiving new or better employment - excluding the comparison group). In subsequent project years, targets reflect the following percentages of the population: 45% in 2018, 55% in 2019, and 50% across the life of the project (which counts FY 2018 and FY2019 since FY2017 represents a baseline only). The LOP numerical target was thus a summation of 2018 and 2019 percentage targets, which is 6,092.

Indicator	FY 2015		FY 2016		FY 2017		FY 2018		FY 2019		LOP Target	LOP Result	% Achieved	Note
	Target	Result	Target	Result	Target	Result	Target	Result	Target	Result				
Unit of measurement: Number of tools, training, platforms Disaggregation: Themes (women's economic empowerment vs. preventing violence against women)														
1.1. Number of new user registrations on the regional MekongSkills2Work Network portal Unit of measurement: Number of user registrations Disaggregation: role (instructor, job-seeker, and employer)	0	0	48	72	135	492	5,294	599	2,620	5,718	8,121	6,881	85%	Disaggregated data: 1,290 instructors; 5,478 job seekers (students); 113 employers.
1.2. Number of new page views on the regional MekongSkills2Work Network portal Unit of measurement: Number of page views Disaggregation: none	0	0	0	0	4,972	43,585	109,120	50,921	200,253	176,575	314,345	271,081	86%	
1.3. Number of user interactions on USAID-LMI COMET social media sites Unit of measurement: Number of user interactions Disaggregation: none	0	18,775	0	61,458	600,000	658,547	600,000	626,781	800,000	2,036,774	2,000,000	3,402,335	170%	The significant progress of this indicator in the final year was due to the successful social media campaign "MekongMyWay" that the project co-created with Cisco and Wedu, which drew 1.6 million interactions.
2.1. Number of new institutions with instructors trained in innovative approaches to teaching STEM+AT courses Unit of measurement: Number of schools Disaggregation: vocational/university	0	16	12	3	0	0	3	0	0	20	15	39	260%	Disaggregated data: 3 vocational colleges and 36 universities The significant increase in the final year was from the organic expansion in Myanmar. By the end of the project, a total number of institutions trained in the MS2W approach is 39 (22 from Myanmar, 8 from Vietnam,

Indicator	FY 2015		FY 2016		FY 2017		FY 2018		FY 2019		LOP Target	LOP Result	% Achieved	Note
	Target	Result	Target	Result	Target	Result	Target	Result	Target	Result				
														4 from Cambodia, 3 from Thailand and 2 from Laos).
2.2. Number of new instructors/trainers that receive training in innovative approaches to teach in-demand skills in STEM+AT as a result of USG assistance Unit of measurement: Number of STEM+AT instructors Disaggregation: sex, vocational/university	20	71	100	103	176	580	206	70	0	215	502	1,039	207%	Disaggregated data: 577 males; 462 females | 907 university instructors; 132 vocational instructors
2.3. Number of new students reached as a result of USAID COMET training Unit of measurement: Number of participating students Disaggregation: sex, vocational/university	0	32	34,210	34,347	8,702	10,204	25,501	16,002	13,101	5,389	81,514	65,974	81%	Disaggregated data: 52,398 males 13,576 females | 6,268 vocational; 59,706 university
2.4. Percent of MS2W participants who improve their self-assessed progress towards the implementation quality standards Unit of measurement: Percent of participants Disaggregation: vocational/university	0.0%	0.0%	0.0%	0.0%	70.0%	75.7%	75.0%	92.0%	80.0%	100.0%	80.0%	100.0%	125%	Disaggregated data: 5% vocational and 95% university.

Indicator	FY 2015		FY 2016		FY 2017		FY 2018		FY 2019		LOP Target	LOP Result	% Achieved	Note
	Target	Result	Target	Result	Target	Result	Target	Result	Target	Result				
2.5. Percent of students participating in quality internships Unit of Measurement: Percent of Students Disaggregation: sex, vocational/university	0.0%	0.0%	0.0%	0.0%	30%	66.8%	40.0%	85.9%	45.0%	96.1%	42.5%	91.0%	214%	Disaggregated data: 83.3% males; 16.7% females | 6.1% vocational; 93.9% university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