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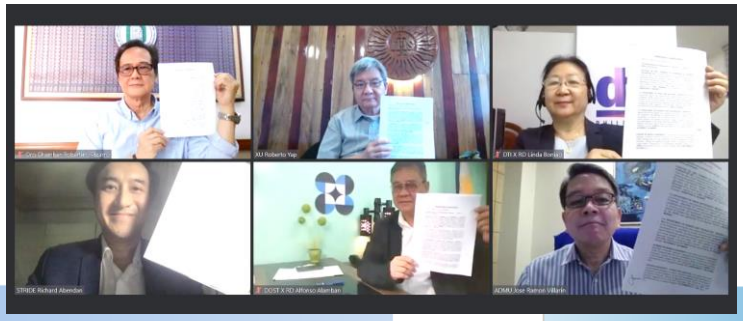

USAID STRIDE Annual Report
October 1, 2019—September 30, 2020

Science, Technology, Research and Innovation for Development **Annual Report 2020**

Science, Technology, Research and Innovation for Development (STRIDE)

Annual Report

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ACRONYMS AND ABBREVIATIONS

AGILA	Academic Grants for Industry-Led Applications
AI	artificial intelligence
AIM	Asian Institute of Management
AIP	Annual Implementation Plan
ASITE	Aboitiz School of Innovation, Technology, and Entrepreneurship
AToP	Alliance of Techtransfer Professionals of the Philippines
BISCAST	Bicol State College of Applied Science and Technology
BIST	Business Innovation Through Science and Technology for Industry
CARWIN	Collaborative Applied Research with Industry Grants
CEO	Chief Executive Officer
CHED	Commission on Higher Education
CHTE	Committee on Higher and Technical Education
CI	context indicator
CIG	Competitiveness and Innovation Group
CLA	collaborating, learning, and adapting
COP	Chief of Party
COVID-19	coronavirus disease 2019
CRADLE	Collaborative Research and Development to Leverage Philippine Economy
DA	Department of Agriculture
DICT	Department of Information and Communications Technology
DLSU	De La Salle University
DOST	Department of Science and Technology
DTI	Department of Trade and Industry
Fab Lab	Fabrication Laboratory
FACTS	Foreign Assistance Coordination Tracking System
FDA	Food and Drug Administration
FEC	Filipinnovation Entrepreneurship Corps
FGD	focus group discussion
FY	fiscal year

GIA	Grants-In-Aid
GII	Global Innovation Index
HAU	Holy Angel University
HEI	higher education institution
HoPE	Head of Procuring Entity
HR	human resources
IBR	Innovation for Business Recovery
IDT	Innovation Diagnostic Tool
IEA	Innovation Ecosystem Assessment
IMPACT	IP Management Program for Academic Institutions Commercializing Technologies
INSEAD	Institut Européen d'Administration des Affaires
IP	intellectual property
IPOPHIL	Intellectual Property Office of the Philippines
IR	Intermediate Result
IRRs	Implementing Rules and Regulations
J2SR	Journey to Self-Reliance
KTTO	Knowledge and Technology Transfer Office
LOP	life of project
M&E	monitoring and evaluation
MBC	Makati Business Club
MCH	Making Change Happen
MEL	monitoring, evaluation, and learning
MLA	Mapping-Linking-Alignment
MMA	Makerspace Management Academy
MOA	memorandum of agreement
MOU	memorandum of understanding
MSME	micro, small, and medium enterprise
MSU-IIT	Mindanao State University-Iligan Institute of Technology
NCR	National Capital Region
NICER	Niche Centers in the Regions for R&D
NRDC	National Research and Development Conference
OROBEST	Optimizing Regional Opportunities for Business Excellence Through Science, Technology, and Innovation

OUSECRD	Office of the Undersecretary for Research and Development
PAASE	Philippine-American Academy of Science and Engineering
PASUC	Philippine Association of State Universities and Colleges
PCAARRD	Philippine Council of Agriculture, Aquatic, and Natural Resources Research and Development
PCIEERD	Philippine Council for Industry, Energy and Emerging Technology Research and Development
Php	Philippine peso
PI	Performance Indicator
PIA	Philippine Innovation Act
PISI	Platform for Innovating SUCs for Industry 4.0
PPE	personal protective equipment
PSM	Professional Science Master
PURE	Philippine-US Research and Exchange
Q	quarter
QS	Quacquarelli Symonds Asian University Ranking
R&D	research and development
RA	Republic Act
RDC	Regional Development Council
RDI	research and development institute
RDLead	R&D Leadership Program
RFP	Request for Proposals
RIIC	Regional Inclusive Innovation Center
RNA	Rapid Needs Assessment
S&T	science and technology
S4CP	Science for Change Program
SDG	Sustainable Development Goals
SEC	Securities and Exchange Commission
SLU	Saint Louis University
SME	small and medium enterprise
START	Skills in Technical and Advanced Research Training
STI	science, technology, innovation
STII	Science and Technology Information Institute

STRIDE	Science, Technology, Research and Innovation for Development
SUCs	state universities and colleges
SY	school year
TIP	Technological Institute of the Philippines
TWG	technical working group
UC	University of the Cordilleras
UP	University of the Philippines
USAID	United States Agency for International Development
USD	U.S. dollar
USG	US Government
USJR	University of San Jose-Recoletos
USTP	University of Science and Technology of Southern Philippines
WARP	Widening Applications of Research within the Pandemic
WHO	World Health Organization
WIPO	World Intellectual Property Organization
Y	year

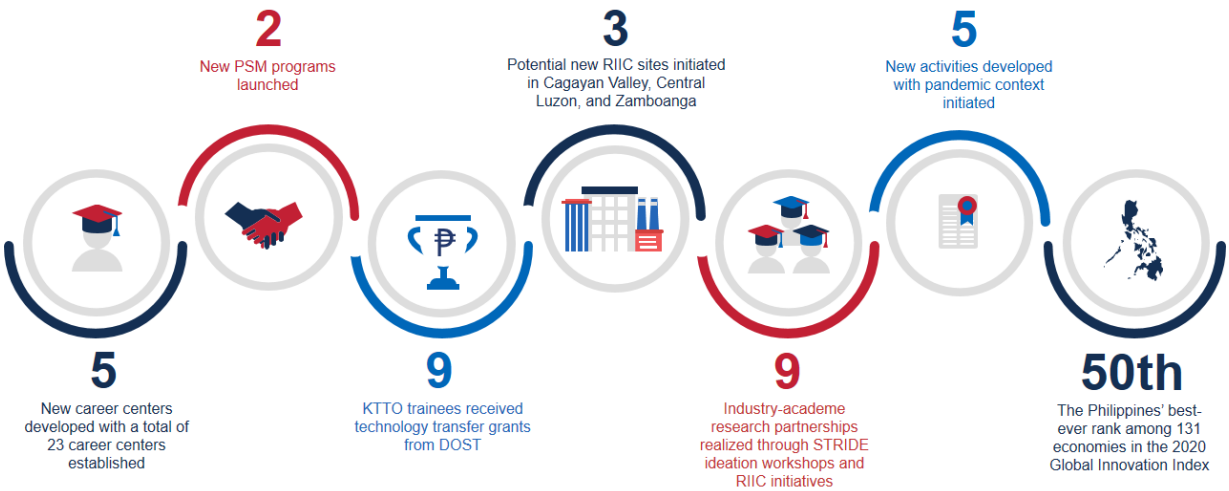
EXECUTIVE SUMMARY

This is the seventh Annual Report for fiscal year (FY) 2020 of the Science, Technology, Research and Innovation for Development (STRIDE) Program. A United States Agency for International Development (USAID) Philippines initiative, STRIDE seeks to contribute to boosting the country's science, technology, and innovation (STI) ecosystem in order to spur inclusive growth, create jobs, and improve lives. This report covers the implementation period from October 1, 2019, to September 30, 2020.

Seven years since its launch, STRIDE is pleased to report significant advances in the Philippines' STI landscape, many of which were results of initiatives that were deliberately put forward with partner institutions and actors championing the STI agenda. In consultation with key partners, STRIDE has also crafted activities this year that will help sustain the momentum for innovation-led growth during the coronavirus disease 2019 (COVID-19) pandemic. The following key accomplishments and outcomes for the year demonstrate USAID principles on **journey to self-reliance**, **systems strengthening** in higher education**,** and the key role of **leveraging partnerships** toward achieving developmental goals of the project.

KEY ACCOMPLISHMENTS

Figure 1. Key Accomplishments in Year 7



The Philippines ranked an all-time high of 50th among 131 economies in the 2020 Global Innovation Index (GII), climbing 4 notches higher from its 54th ranking in 2019. At the beginning of STRIDE in 2014, the Philippines was ranked 100. According to the GII report, the Philippines joins China, Vietnam, and India with the most significant progress in its innovation landscape.

This year's GII report notably includes a chapter titled "Filipinnovation: Financing Science for the People," authored by Department of Science and Technology (DOST) Secretary Fortunato de la Peña. In the article, he specifically mentioned USAID support through the STRIDE program for the establishment of the Philippine Government's Regional Inclusive Innovation Centers (RIICs).

Significant achievements reflecting the **journey to self-reliance***:*

- **The Philippine government signed the respective Implementing Rules and Regulations (IRR) of the Innovative Startup Act and the Philippine Innovation Act, two laws that are expected to provide a significant boost to the country's STI agenda**. Republic Act (RA) 11337 or the Innovative Startup Act provides incentives and grant mechanisms for qualified start-up applicants. Meanwhile, RA 11293, also known as the Philippine Innovation Act, creates the National Innovation Council that will serve as the country's policy advisory body in the formulation and monitoring of innovation initiatives. STRIDE has supported the development of the two IRRs and provided inputs, which were integrated in the measures.
- **STRIDE, in partnership with DOST, launched the Philippine Innovation Ecosystem Assessment (IEA) 2019 Update study**. Released to the public in September 2020, the study reveals that 68% of individuals surveyed said the innovation landscape has improved since 2014. The study recognizes that some challenges remain in areas such as research and development (R&D) procurement, investment, and mechanisms; collaboration; raising awareness about innovation opportunities; and generating examples of local successes in entrepreneurship.
- **The DOST Business Process Design Study is set to commence following sub-award of third-party organizational assessment firm**. The study will map out and analyze the DOST grants business process and recommend interventions to address areas of improvements. It will focus on the Grants in Aid (GIA) program, DOST's primary grant mechanism, and the Collaborative Research and Development to Leverage Philippine Economy (CRADLE) program, DOST's leading grants initiative for supporting industry-academe R&D linkages.
- **Cagayan Valley, Central Luzon, and Zamboanga in Western Mindanao are gearing up to be the next RIIC sites**. STRIDE and its partners began the preliminary steps in establishing the region's RIICs as local partners from the government and industry welcomed the initiative. In Zamboanga, the Regional Development Council (RDC) has endorsed the RIIC. Regions 2 and 3 have participated in RIIC scoping activities.

Significant achievements in terms of **systems strengthening** in higher education:

- **Five universities took part in Career Center training and mentoring sessions, bringing the network of USAID-supported university Career Centers in the Philippines to a total of 23**. STRIDE assists university Career Centers through mentoring, knowledge-sharing, and linkages. In June 2020, STRIDE had Dr. Farouk Dey from John Hopkins University speak before over 70 participants in a webinar titled the "Future of University Career Centers in the Philippines in a COVID-19 Economy." Dr. Dey challenged Career Centers to go beyond building workplace-relevant skills among students and to look into

developing platforms that will help students better understand themselves and their potential.

- **Twelve researchers from 9 Philippine universities completed the Skills in Technical and Advanced Research Training (START) "Writing a Scientific Paper for Publication" course**. The manuscript of one of the trainees has been published by the *Philippine Journal of Science* in its September 2020 issue. Two other trainees have started to revise their papers based on the responses received from research journals, while the nine other researchers have completed their manuscripts for submission. Combining face-to-face training and virtual mentoring from highly published local faculty, the course seeks to improve the researchers' skills in publishing their studies in peer-reviewed and internationally-recognized journals.
- **The University of the Philippines (UP) Diliman College of Science will soon have a centralized R&D Procurement Database**. STRIDE and UP began the development of the database, which is expected to capture systematically all R&D procurement by the College. Using artificial intelligence (AI) coding, the database will provide best search results and suggested pathways in acquiring specific R&D supplies and equipment. The development of the database was one of the key recommendations at the R&D Procurement Forums, which STRIDE and the College of Science co-organized in February 2020.
- **A Reference Paper on Research and Extension was presented by STRIDE at the first Philippine Association of State Universities and Colleges (PASUC) Digital Summit.** The paper provides universities with a wider lens in viewing the drivers impacting research productivity and extension. It recommends building a university culture of research and extension, aligning the research and extension agenda to university vision and goals, and developing faculty research and extension capabilities and mindsets. The paper will become a policy brief and complements the Innovation Diagnostic Tool (IDT) survey being administered with PASUC.

Significant achievements that **leverage partnerships** for STI:

- **Nine universities under the STRIDE Knowledge and Technology Transfer Office (KTTO) program awarded grants from DOST for their technology transfer offices.** In September 2020, the Philippine Council for Industry, Energy, and Emerging Technology Research and Development (PCIEERD) approved the proposals of the nine universities for the setting up of their technology transfer and commercialization processes. These universities were part of the more than 30 higher education institutions (HEIs) and research and development institutes (RDIs) capacitated under the KTTO-Intellectual Property (IP) Management Program for Academic Institutions Commercializing Technologies (IMPACT) program, which STRIDE implements in partnership with PCIEERD. Each university grantee will each receive funds ranging from [REDACTED]
- **Two new partnerships for Professional Science Master's (PSM) programs were added to the 11 PSM programs that STRIDE has so far developed.** In November 2019, the University of San Jose-Recoletos (USJR) and Knowles Electronics Philippines formalized their partnership for the development of a PSM program in Electro-Acoustic Engineering. Knowles' Managing Director states the

program serves as a key piece in establishing Cebu as "the acoustic hub of the Philippines." In March 2020, Technological Institute of the Philippines (TIP)-Manila and CloudSwyft Global Systems signed a memorandum of understanding (MOU) to co-develop a PSM program in Data Science. TIP-Manila and CloudSwyft launched the PSM program in September together with another industry partner, Emerson Philippines.

- **Nine industry-academe research partnerships were realized through STRIDE ideation workshops and RIIC initiatives.** Nine enterprises, including two of the country's largest—PLDT, Inc., and Manila Water—formalized their partnerships with universities to pursue concepts and ideas into implementable R&D projects. Four of the projects have been transformed into R&D proposals for DOST Region 10 funding and have been awarded funds totaling to [REDACTED]

- **STRIDE partners with DOST to implement the "R&D: Making Change Happen (MCH)" communication campaign to consolidate communications of R&D impact**. Since April 1, the Department's research councils and RDIs have been applying the campaign's content strategy, theme, and visual branding in their communication initiatives. Forming part of the campaign are media outreach efforts related to DOST's R&D initiatives against COVID-19; assistance in holding this year's National Research and Development Conference (NRDC) as a platform for campaign message delivery; and unlocking a Php 2 million fund for the development of the campaign video series.

PROJECT CHALLENGES AND PANDEMIC RESPONSE

The onset of the COVID-19 pandemic in the middle of the year brought about significant challenges to project implementation and threatened recent advancements in the country's innovation ecosystem. In response, STRIDE consulted with USAID and its key partners in crafting modified and new activities that help sustain the momentum for innovation-led growth within a difficult operating environment. These changes are described in a revised Year 7 Annual Implementation Plan (AIP) (accepted by USAID on July 7, 2020), and are also reflected in some of the accomplishments in this report.

An overarching challenge for the year is the realignment of priorities and resources of key partners in government, industry, and academia toward responding to the pandemic. This has resulted in some delays in joint innovation programs supported by STRIDE with these partners. Government partners in particular have also expressed rapidly changing needs as they continue to respond to the fluid operating environment. Academic partners meanwhile had to focus on developing remote learning programs, while industries are concerned with the expected economic headwinds.

Social distancing requirements and restrictions on travel have prevented planned symposiums, large conferences, regional field work, in-person training, and study tours from happening. STRIDE staff have also been on flexible work arrangements since the start of the pandemic. Changes in implementation strategies and design introduced in the revised AIP have mostly dealt with these challenges, though some operational delays can still be encountered with stakeholders as they adjust to disruptions and limited operations.

It should be noted through these challenges, five of the new activities introduced in the revised AIP have already commenced. These are: 1) a compendium to capture research and extension work of state universities and colleges (SUCs) in the pandemic; 2) a research grant program for previous STRIDE grantees; 3) technical assistance to the Department of Trade and Industry-Competitiveness and Innovation Group (DTI-CIG) communications; 4) a study for the local Personal Protective Equipment (PPE) manufacturing industry; and 5) a strategic foresight training program for government officers.

STRIDE GOAL AND INTERMEDIATE RESULTS

The STRIDE program is a USAID/Philippines initiative that seeks to improve the Philippines' STI capacity to help spur inclusive growth, create jobs, and improve lives. A USAID/Philippines initiative, STRIDE builds upon the Philippine Government's 2017–2022 Development Plan, which states that self-sustaining, inclusive development can be achieved by "promoting science, technology, and creative arts to enhance innovation and creative capacity."

Consistent with USAID's Journey to Self-Reliance Framework, the program supports key Philippine institutions in the implementation of their own innovative solutions to achieve the country's development goals.

STRIDE has been working closely with Philippine academic institutions, industries, and the government to boost their capacity for innovation. It provides technical assistance in the design, implementation, and assessment of R&D-impacting policies and programs. It works to strengthen linkages between and among innovation stakeholders and to institutionalize STRIDE's capacity-building programs with partner universities. Through this, STRIDE looks forward to helping the Philippines effectively address the challenges blocking its development journey not just in the short term, but also in years to come.

In response to the COVID-19 pandemic, an Activity Mitigation Plan was submitted to USAID on April 7, 2020. Through intensive dialogue with key stakeholders and USAID, a revision to the Year 7 AIP was made and subsequently accepted by the Agreement Officer's Representative (AOR) on July 7, 2020. The revised plan was made to be responsive to the priorities of key partners dealing with the impacts of the pandemic while still meeting original program goals set by USAID when requesting an application for the 3-year extension. The tasks, sub-tasks, and the accomplishments described in this report are based on this revised AIP.

To achieve the program's goals, STRIDE endeavors to deliver improvements in three Intermediate Result (IR) areas as described in ***Table 1*** and ***Figure 2***.

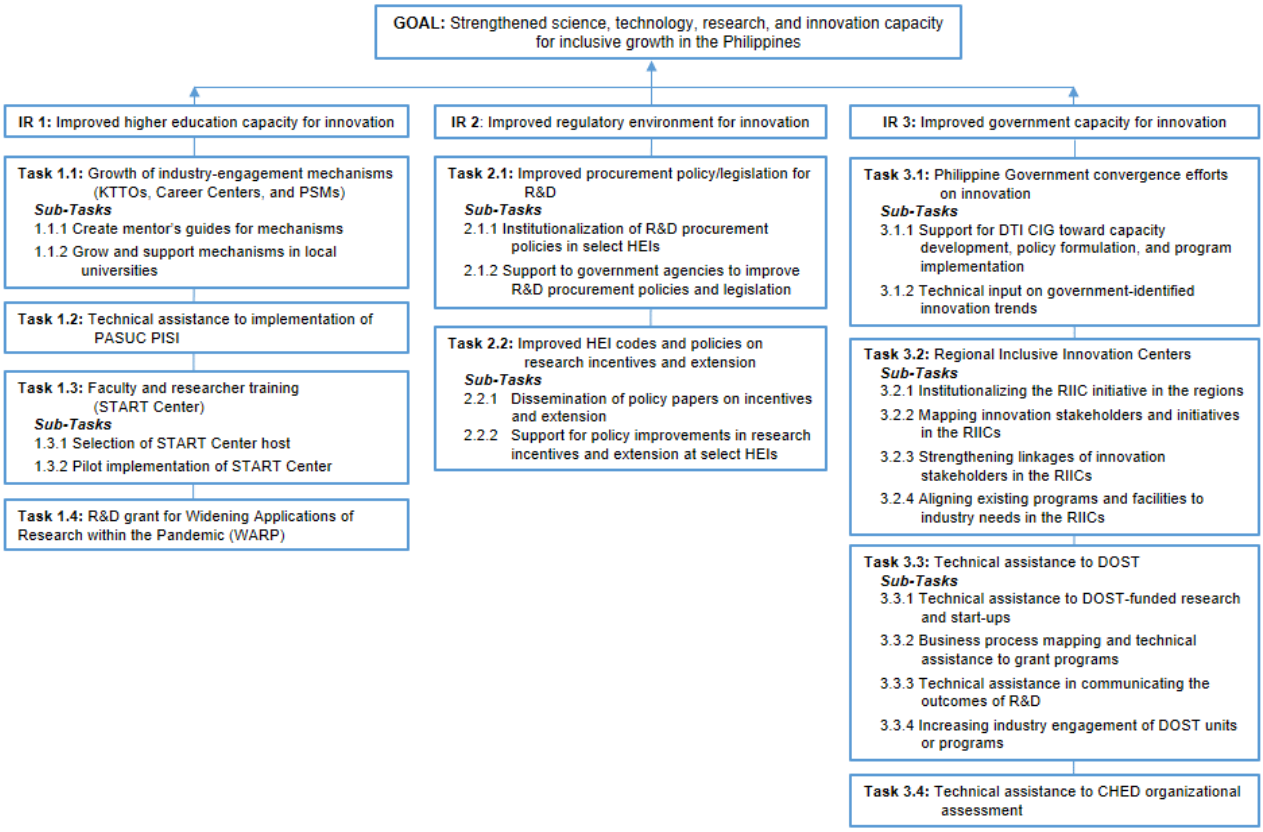
Table 1. STRIDE Intermediate Results

IR 1	IR 2	IR 3
Improved higher education capacity for innovation	**Improved regulatory environment for innovation**	**Improved government capacity for innovation**
Tasks for this IR will further institutionalize the STRIDE-supported KTTOs, university Career Centers, and	STRIDE will support STI R&D policy and regulatory improvements in government	Activities under this IR will strengthen innovation ecosystem development efforts of the

Table 1. STRIDE Intermediate Results

IR 1	IR 2	IR 3
PSM programs. STRIDE will also enhance the mentoring capacity of the original partner universities for these initiatives, with the end goal of transitioning these universities into empowered mentor-institutions to share their USAID-supported knowledge and expertise with other Philippine universities. STRIDE will also further develop with a partner institution an STI training center for research faculty and staff. PASUC will be engaged to help define and implement policies to increase innovation output from publicly funded HEIs.	and in HEIs. Where necessary, support and/or training will be given in both the formulation and the execution of policy.	Philippine Government by providing targeted technical assistance to agencies and institutions that are central to the innovation ecosystem. Inputs and good practices will be transferred to and owned by government to serve as strengthened systems for further investment and growth in this area.

Figure 2. Relationship of STRIDE Tasks to IRs and Program Goal



PERFORMANCE INDICATOR SUMMARY TABLE

The indicators in ***Table 2*** are those listed in the project's Monitoring, Evaluation, and Learning (MEL) Plan submitted last **October 2019**. The STRIDE monitoring approach tracked performance indicators (PIs) at the output and outcome levels. In addition, STRIDE tracks and monitors context indicators (Cis). These CIs formed the basis of the program's complexity awareness approach by tracking trends in the larger national and international STI ecosystem external to STRIDE.

Table 2. Performance Indicator Summary Table

Indicator	Year 1–5 Accomplishments	Year 6 Accomplishments	Year 7 Target	Year 7 Accomplishments	Year 7 Percentage	Life of Program (LOP) Target	LOP Progress	Percentage of LOP Target Achieved to Date	Notes
GOAL: Strengthened science, technology, research, and innovation capacity for inclusive growth in the Philippines									
CI1. Philippines Ranking in Global Innovation Index (GII)	73rd (2018)	54th (2019)	NA	50th (2020)			NA		
Intermediate Results (IR) 1: Improved higher education capacity for innovation [REDACTED]									
CI2. QS Asia University Rankings	112th (2018)	126th (2019)	NA	133rd (2020)			NA		
PI16. Number of USG-supported tertiary programs with curricula revised with private and/or public sector employers' input or on the basis of market research	9	2	2	2	100%	15	13	87%	

Table 2. Performance Indicator Summary Table

Indicator	Year 1–5 Accomplishments	Year 6 Accomplishments	Year 7 Target	Year 7 Accomplishments	Year 7 Percentage	Life of Program (LOP) Target	LOP Progress	Percentage of LOP Target Achieved to Date	Notes
PI21 (ES.2-1). Number of host-country tertiary education institutions receiving capacity development support with USG assistance	191	39 (8 new)	27 (0 new)	46 (4 new)	170%	252	276	109%	
PI24. Number of tertiary education institution faculty or staff whose qualifications are strengthened through USG-supported STI-related training programs				See below					
Completed	NA	24	102	37	36%	252	61	24%	
Enrolled	NA	124	117	37	32%	300	161	54%	
PI25. Number of individuals attending tertiary education institutions with curricula revised with private and/or public sector employers' input or on the basis of market research				See below					
Graduates	NA	26	60	57	95%	260	83	32%	
New enrollees	NA	63	72	57	79%	332	120	36%	
Attending	NA	164	114	161	141%	514	325	63%	
PI26. Number of new partnerships between tertiary education institutions, government and/or private sector	NA	12	26	86	331%	81	98	121%	

Table 2. Performance Indicator Summary Table

Indicator	Year 1–5 Accomplishments	Year 6 Accomplishments	Year 7 Target	Year 7 Accomplishments	Year 7 Percentage	Life of Program (LOP) Target	LOP Progress	Percentage of LOP Target Achieved to Date	Notes
firms developed as a result of USG-supported programs									
IR 2: Improved regulatory environment for innovation [REDACTED]									
CI4. Change in ranking on university/industry research collaboration (GII 5.2.1)	56th (2018)	25th (2019)	NA	27th (2020)			NA		
PI27. Number of initiatives of innovation policy, strategies, or plans approved or implemented attributable to USG support	3	9	4	4	100%	17	16	94%	
PI28. Percentage change in time to procure scientific research equipment and materials at HEIs (with emphasis on time reduction)				LOP target: -50%					
PI29. Percent change in required number of signatures needed to procure scientific research equipment and materials at HEIs				LOP target: -25%					
PI30. Percent change in new Science for Change (S4CP) grant applications	NA			See below					Baseline data are 2017 figures. For

Table 2. Performance Indicator Summary Table

Indicator	Year 1–5 Accomplishments	Year 6 Accomplishments	Year 7 Target	Year 7 Accomplishments	Year 7 Percentage	Life of Program (LOP) Target	LOP Progress	Percentage of LOP Target Achieved to Date	Notes
Niche Centers in the Regions for R&D (NICER)		-29%	15%	-37%	-37%	20%		-37%	Year 6 reporting, 2018 data are compared to baseline data. For Year 7 reporting, 2019 data are compared to baseline data.
R&D Leadership (RDLead) Program		100%	15%	50%	50%			50%	
CRADLE		300%	15%	183%	183%			183%	
Business Innovation Through Science and Technology for Industry (BIST)		-17%	15%	-50%	-50%			-50%	
IR 3: Improved government capacity for innovation *[Planned Expenses:* [REDACTED]									
CI3. Changes in ranking on Innovation Linkages (GII 5.2)	93rd (2018)	71st (2019)	NA	64th (2020)			NA		
CI5. Change in percentile ranking on government effectiveness (USAID self-reliance metrics)	55th (2018)	55th (2019)	NA	55th (2019)			NA		No data yet for 2020
PI24. Number of tertiary education institution faculty or staff whose qualifications are strengthened through USG-supported STI-related training programs				See below					
Completed	NA	24	102	37	36%	252	61	24%	

Table 2. Performance Indicator Summary Table

Indicator	Year 1–5 Accomplishments	Year 6 Accomplishments	Year 7 Target	Year 7 Accomplishments	Year 7 Percentage	Life of Program (LOP) Target	LOP Progress	Percentage of LOP Target Achieved to Date	Notes
Enrolled	NA	124	117	37	32%	300	161	54%	
PI31. Number of public sector-funded programs or offices that have improved management practices or technologies as a result of USG assistance	NA	0	6	5	83%	10	5	50%	
PI32 (EG.5.2-2): Number of private sector firms that have improved management practices or technologies as a result of USG assistance.	NA	1	7	5	71%	15	6	40%	
PI33. Amount of mobilized funds from Philippine Government on innovation-related activities as a result of USG-supported interventions	NA	0	2m	[REDACTED]	48%	[REDACTED]		24%	
PI34. Number of government staff whose qualifications are strengthened through USG-supported STI-related training programs				See below					
Completed	NA	13	5	0	0%	35	13	37%	

Table 2. Performance Indicator Summary Table

Indicator	Year 1–5 Accomplishments	Year 6 Accomplishments	Year 7 Target	Year 7 Accomplishments	Year 7 Percentage	Life of Program (LOP) Target	LOP Progress	Percentage of LOP Target Achieved to Date	Notes
Enrolled	NA	46	5	4	80%	40	50	125%	
PI35. Number of established RIICs	NA	3	4	4	100%	5	4	80%	Cumulative counting. 1 new RIIC established in Year 7.

CORRELATION TO M&E PLAN

The MEL Plan submitted last October 2019 was used as the basis for the AIP for Year 7. ***Table 3*** shows the methods used to collect data for the PIs, Foreign Assistance Coordination Tracking System (FACTS) indicators, and CIs.

STRIDE utilizes two FACTS indicators for reporting, namely **ES.2-1:** Number of host country HEIs receiving capacity development support with USG assistance, and **EG.5.2-2:** Number of private sector firms that have improved management practices or technologies as a result of USG assistance.

In addition, STRIDE continues to monitor five relevant CIs to complement the monitoring of PIs and progress vis-a-vis the broader operating environment. Three CIs are related to the Philippines' position in the GII. The GII aligns with the STRIDE program objectives in recognizing "the key role of innovation as a driver of economic growth and prosperity" and in that it focuses on "improving the journey toward a better way to measure and understand innovation and with identifying targeted policies and good practices that foster innovation." On the other hand, STRIDE also monitors Philippine HEIs' average ranking in the Quacquarelli Symonds (QS) Asia University Rankings and the country's position in government effectiveness indicator of the Worldwide Governance Indicators, which was adopted by USAID as part of its Journey to Self-Reliance metrics.

The following CIs are tracked by the STRIDE program:

- **CI1:** Philippines' ranking in Philippines Ranking in GII
- **CI2:** QS Asia University Rankings
- **CI3:** Changes in ranking on Innovation Linkages (GII 5.2)
- **CI4:** Change in ranking on university/industry research collaboration (GII 5.2.1)
- **CI5:** Change in percentile ranking on government effectiveness (USAID self-reliance metrics)

In light of the COVID-19 pandemic, a revised AIP for FY2020 documenting key changes in technical activities along with target revisions of some PIs was submitted and approved by USAID in July 2020 to reflect changes in programmatic, operational, and monitoring and evaluation (M&E) perspectives.

Table 3. M&E Plan Methods Used for Monitoring PIs

Performance Indicator	Unit of Measure	Data Source(s)	Data Collection/Analysis Method(s) Used
Goal: Strengthened science, technology, and innovation capacity of higher education institutions in the Philippines			
CI1: Philippines Ranking in GII	Rank	GII report	Overall ranking of Philippines was collected from the official GII report launched and released last September 2020. The GII report is third-party data co-published by Cornell University, Institut Européen d'Administration des Affaires (INSEAD), and the World Intellectual Property Organization (WIPO, an agency of the United Nations). The core of the GII Report consists of a ranking of world economies' innovation capabilities and results.
IR1: Improved higher education capacity for innovation			
CI2: QS Asia University Rankings	Average Rank	QS Asia University Rankings Report	The average ranking of Philippine HEIs included in the QS Asia University rankings report. The QS Asia University rankings report is third-party-data published by Quacquarelli Symonds Limited, which ranks HEIs in both global and regional settings (Asia).
PI16: Number of USG-supported tertiary programs with curricula revised with private and/or public sector employers' input or on the basis of market research	Number of programs	Project reports, official partnerships documents	Number of academic curricula jointly developed with private sector inputs (partner industry).
PI21 (ES. 2-1): Number of host country tertiary education institutions receiving capacity development support with USG assistance (FACTS)	Number of universities	Project reports, attendance sheets for STRIDE activities	Number of HEIs engaging in STRIDE capacity-development activities. These activities include establishing a PSM, attending Career Center, KTTO, Filipinnovation Entrepreneurship Corps (FEC), and START. Information collected from source documents for each type of STRIDE activity. An HEI participating in more than one capacity-building activity will be counted only once for a particular fiscal year.
PI24: Number of tertiary education institution faculty or staff whose qualifications are strengthened through USG-supported STI-related training programs	Number of individuals	Project reports, attendance sheets, and certificates of completion/ participation	Number of HEI faculty/staff receiving STI-related capacity-building activities such as PSM curriculum workshop, Career Center training, KTTO training, FEC, and START.
PI25: Number of individuals attending tertiary education institutions with curricula revised with private and/or public	Number of individuals	Report from partner HEIs	Number of new enrollees, attending, and graduates of STRIDE-assisted PSM programs operated by partner HEIs. New enrollees: An individual is considered as a first year enrollee if the individual

Table 3. M&E Plan Methods Used for Monitoring PIs

Performance Indicator	Unit of Measure	Data Source(s)	Data Collection/Analysis Method(s) Used
sector employers' input or on the basis of market research			registers for the first time on a specific PSM program. Attending: Enrolled individuals from previous years who continue as registered students participating in the program. Graduates: Individuals who officially graduate with a PSM degree from the HEI.
IR 2: Improved regulatory environment for innovation			
CI3: Changes in ranking on Innovation Linkages (GII 5.2)	Rank	GII report	Ranking of Philippines in a sub-indicator (Innovation Linkages 5.2) was collected from the official GII report launched and released last September 2020.
PI27: Number of initiatives of innovation policy, strategies, or plans approved or implemented attributable to USG support	Number of policies	Project records, copy of policy	Innovation policies are defined as unique policy instruments (i.e., law, strategies, plans, manuals, policy briefs, institutional orders, policy resolutions, and official handbooks) and/or any ad hoc input requests from relevant government agencies and/or tertiary education institutions that have an impact on innovation practices, activities, mechanisms, and programs in the Philippines that are supported through STRIDE technical assistance.
PI28: Percentage change in time to procure scientific research equipment and materials at HEIs (with emphasis on time reduction)	Percent change in average time	Project records	This will track change in procuring time of STI-related goods and equipment for PI29: (1) Small Value Procurement (under Php1 million), and (2) Regular Procurement (Php1 million and above) Days to procure STI-related goods and equipment will be collected through a baseline and will be compared in subsequent years. LOP target only.
PI29: Percent change in required number of signatures needed to procure scientific research equipment and materials at HEIs	Percent change in required number of signatures	Project records	This particular indicator will track changes in required number of signatures in procuring STI-related goods and equipment for (1) Small Value Procurement (under Php1 million) and (2) Regular Procurement (Php1 million and above) Required number of signatures to procure STI-related goods and equipment will be collected through a baseline and will be compared in subsequent years. LOP target only.
IR 3: Improved government capacity for innovation			
CI4: Change in ranking on university/industry research collaboration (GII 5.2.1)	Rank	GII report	Ranking of Philippines in a sub-indicator (University/industry research collaboration, GII 5.2.1) was collected from the official GII report launched and released last September 2020.
CI5: Change in percentile ranking on government effectiveness (USAID self-reliance metrics)	Percentile Rank	Worldwide Governance Indicators Report	Government Effectiveness is a Journey to Self-Reliance metric. Government Effectiveness is the first capacity metric and is a third-party metric from the World Bank Worldwide Governance Indicators that measures the quality of public

Table 3. M&E Plan Methods Used for Monitoring PIs

Performance Indicator	Unit of Measure	Data Source(s)	Data Collection/Analysis Method(s) Used
			services, the quality of the civil service and its independence from political pressure, the quality of policy formulation and implementation (including the efficiency of revenue mobilization and budget management), and the credibility of the government's commitment to its stated policies.
PI30: Percent change in new S4CP grant applications	Percentage change	External data from DOST	The indicator measures the percent change of applications toward Philippine Government-run grant initiatives (i.e., DOST S4CP) as a result of USG-supported activities at RIIC pilot sites.
PI31: Number of public sector-funded programs or offices that have improved management practices or technologies as a result of USG assistance	Number of public sector offices/ programs	Survey, reports from partner agencies	This indicator measures the number of public-sector funded programs or offices that improved their management practices (e.g., operational management, strategic planning, and program implementation) or technologies (e.g., acquisition of better equipment or software, or better application of technology and processes) in the past year as a result of USG assistance.
PI32 (EG.5.2-2): Number of private sector firms that have improved management practices or technologies as a result of USG assistance	Number of private sector firms	Survey, reports from industry partners	This indicator measures the number of private sector firms that improved their management practices (e.g., operational management, strategic planning, and program implementation) or technologies (e.g., acquisition of better equipment or software, or better application of technology and processes) in the past year as a result of USG assistance.
PI33: Amount of mobilized funds from Philippine Government on innovation-related activities as a result of USG-supported interventions	US dollar (USD) amount mobilized	Government records, program records	Amount in USD mobilized, referring to funds already appropriated for Philippine Government agencies such as DOST, DTI, and other agencies on innovation-related activities that are utilized as a result of USG-supported interventions.
PI34: Number of government staff whose qualifications are strengthened through USG-supported STI-related training programs	Number of individuals	Project reports, attendance sheets, and certificates of completion/ participation	Number of HEI faculty/staff receiving STI-related capacity-building activities such as KTTO training and FEC.
PI35: Number of established RIICs	Number of RIICs	Official documents (RDC resolution)	A RIIC is considered established once an official documentation (e.g., RDC resolution) is approved by relevant government agencies.

SUMMARY OF ADJUSTMENTS ON FY2020 TARGETS

Moving forward for Year 7 and beyond, the revised MEL Plan submitted in October 2019 will be used as the basis for project management and reporting activities. ***Table 4*** illustrates each indicator and its corresponding targets.

Table 4. Summary of STRIDE FY2020 Target Adjustments

Indicator Number	Indicator Name	Year 7 Original Target	Year 7 Revised Target
PI16	Number of USG-supported tertiary programs with curricula revised with private and/or public sector employers' input or on the basis of market research	4	2
PI21 (ES.2-1)	(ES.2-1) Number of host-country tertiary education institutions receiving capacity development support with USG assistance	27 (0 new)	na
PI24	Number of tertiary education institution faculty or staff whose qualifications are strengthened through USG-supported STI-related training programs		
	Completed		
	PSM curriculum development workshop	12	na
	KTTO training	45	na
	Career Center training	15	na
	START Modules	60	30
	FEC program	20	0 (Year 7 target moved to Year 8)
	Enrolled		
	PSM curriculum development workshop	12	na
	KTTO training	45	na
	Career Center training	15	na
	START Modules	60	30
	FEC program	20	0 (Year 7 target moved to Year 8)
PI25	Number of individuals attending tertiary education institutions with curricula revised with private and/or public sector employers' input or on the basis of market research		
	Graduates	100	60
	New enrollees	120	72
	Continuing	190	114

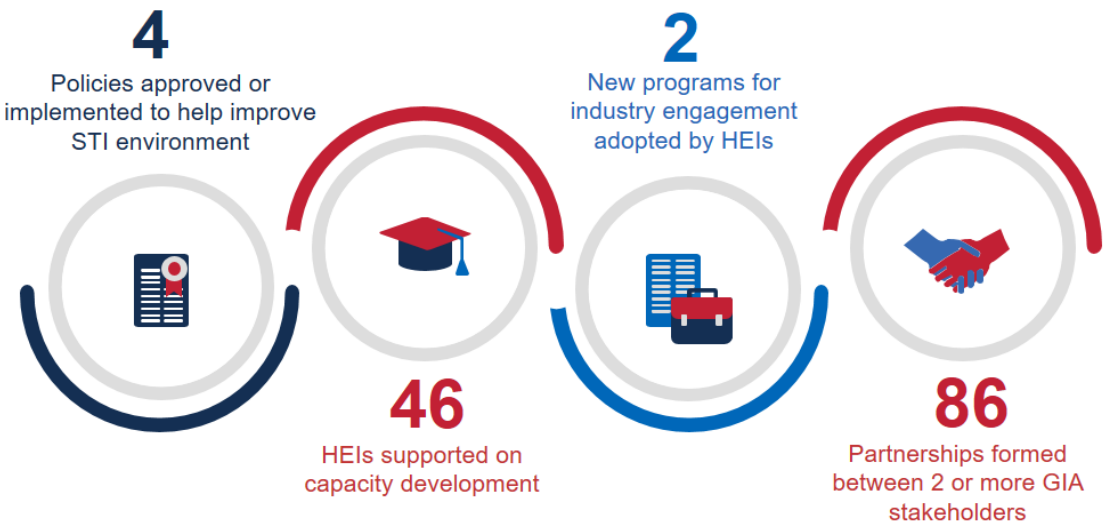
Table 4. Summary of STRIDE FY2020 Target Adjustments

Indicator Number	Indicator Name	Year 7 Original Target	Year 7 Revised Target
PI26	Number of new partnerships between tertiary education institutions, government and/or private sector firms developed as a result of USG-supported programs		
PSM		4	2
KTTO		10	na
Career Center		4	na
RIICs		24	10
PI27	Number of initiatives of innovation policy, strategies, or plans approved or implemented attributable to USG support	4	na
PI30	Percent change in new S4CP grant applications	15%	na
PI31	Number of public sector-funded programs or offices that have improved management practices or technologies as a result of USG assistance	6	na
PI32	(EG.5.2-2): Number of private sector firms that have improved management practices or technologies as a result of USG assistance	7	na
PI33	Amount of mobilized funds from Philippine Government on innovation-related activities as a result of USG-supported interventions	2m	na
PI34	Number of government staff whose qualifications are strengthened through USG-supported STI-related training programs		
Completed			
KTTO training		5	na
FEC program		10	0 (Year 7 target moved to Year 8)
Enrolled			
KTTO training		5	na
FEC program		10	0 (Year 7 target moved to Year 8)
PI35	Number of established RIICs	4	na

RESULT BY RESULT ANALYSIS

ANALYSIS OF PERFORMANCE INDICATORS

Figure 3. Significant Achievements for Year 7



The progress of PIs as seen above in the Summary Table (***Table 2***) is described in more detail below along with the numerous tasks corresponding to and affecting these indicators. The relationship of the activities to the PIs is shown in the STRIDE results framework (***Figure 4***).

PI16. Number of USG-supported tertiary programs with curricula revised with private and/or public sector employers' input or on the basis of market research (Task 1.1)

Target for Y7: 2;

Achieved 2. STRIDE reached 100% of its target for this indicator. Two new PSM curricula have been launched in this fiscal year. USJR partnered with Knowles Electronics Philippines to develop the PSM program in Electro-Acoustic Engineering. In addition, TIP launched its second STRIDE-supported PSM program. The second curriculum focuses on Data Science and was developed with partner industries Cloudswyft Global Systems, Inc., and Emerson Philippines.

PI21 (ES. 2-1). Number of host country tertiary education institutions receiving capacity development support with USG assistance (Task 1.1, Task 1.3)

Target 27;

Achieved 46 (4 new). STRIDE exceeded the Year 7 target (170%) for this indicator.

Exceeding the Year 7 target can be attributed to the HEIs' continued interest in participating in various capacity-building programs implemented especially between Quarter (Q)1 and Q2. The four new HEIs capacitated through the START workshops include Cebu Technological University, Marinduque State College, Northwestern Mindanao State College of Science and Technology, and Philippine Marine Merchant Academy.

PI24. Number of tertiary education institution faculty or staff whose qualifications are strengthened through USG-supported STI-related training programs (Task 1.1, Task 1.3, Task 3.3)

Target 102 completed and 117 enrolled;

Achieved 37 completed and 37 enrolled. STRIDE saw some underperformance for this indicator and only reached 37% of the target due to the timeline adjustments caused by the pandemic. Planned original activities for the year were pushed to the next fiscal year. Significant for this is the final training and graduation of the KTTO program where around 60 HEI-affiliated individuals are enrolled and 6 local mentors are being trained, and the implementation of START training workshops in Q1–Q2 FY2021. Year 8 will also see the launch of the START Center which will enable the holding of START courses to train more HEI faculty and staff.

From the 37 achieved, STRIDE produced 18 graduates of the year-long Career Center training, which concluded last July. The first START workshop had 11 HEI faculty graduates, trained to improve skill sets in publishing a scientific paper. The PSM workshop attended by 8 TIP faculty/officials was conducted last February.

PI25. Number of individuals attending tertiary education institutions with curricula revised with private and/or public sector employers' input or on the basis of market research (Task 1.1)

Target 60 graduates, 72 new enrollees, 114 attending students from PSM programs;

Achieved 57 graduates, 57 new enrollees, 161 attending students. The progress for each disaggregate is equivalent to 95%, 72%, and 141% respectively. The aggregate numbers for school year (SY) 2019–2020 were reported by seven different HEIs with operational PSM programs: Holy Angel University, Mariano Marcos State University, Saint Louis University, TIP, University of Cordilleras (UC), University of Science and Technology of Southern Philippines (USTP), and Western Mindanao State University.

The PSM programs launched back in FY2020 have yet to operate, as most of the partner HEIs are still awaiting government approval to offer the program. Thus, the actual enrollees figure is under target.

PI26. Number of new partnerships between tertiary education institutions, government, and/or private sector firms developed as a result of USG-supported programs (Task 1.1, Task 3.2)

Target 26;

Achieved 86. STRIDE exceeded the Year 7 target by 331%. Over 50% of the partnerships recorded came from the partner HEI Career Centers (Mapua University, USTP, and University of San Agustin). The high volume of partnerships reported by these HEI partners came from their increased focus on building and documenting formalized academe–industry engagements such as conducting career placement activities, internships, on-the-job training programs, and immersions.

Of the 86 partnerships, 31% were formed through partner HEIs' KTTO from UP–Los Baños, Mindanao State University–Iligan Institute of Technology, and USTP. All partnerships formed are between academe–industry and academe–government, which range from conducting R&D projects, joint exploratory activities, research service agreements, licensing agreements, and consultancy engagements. Partnerships formed through RIIC initiatives have accounted for 9% of the overall actuals, and 3% were through the curriculum development of PSM programs in the country. The high number of partnerships resulted from the partners reporting a large number of partnership activities that were efficiently created and documented through Career Centers and KTTOs. This is indicative of the immense value of these mechanisms in generating industry partnerships for HEIs.

PI27. Number of initiatives of innovation policy, strategies, or plans approved or implemented attributable to USG support (Task 1.2, Task 2.1, Task 2.2, Task 3.1, Task 3.2, Task 3.3)

Target 4;

Achieved 4. STRIDE reached 100% of its target for this indicator. Four new policies were approved or implemented with USG-assistance for this year. These include the DOST R&D Communication Campaign, DOST COVID-19 Communications Strategy, the IRR of the Philippine Innovation Act, and the establishment of the RIIC in Zamboanga Region.

PI30. Percent change in new S4CP grant applications (Task 2.2, Task 3.2)

Target 15% increase across S4CP grant programs;

Achieved: NICER -37%, RDLead 50%, CRADLE 183%, BIST -50%

Progress on this indicator varied. This indicator measures the level of activity (applications received) in the first 4 RIIC pilot regions, namely: Bicol Region (R5), Cebu Region (R7), Cagayan de Oro (R10), and Davao (R11) under different S4CPs. CRADLE grants, which are a type of grant given to an HEI with a partner industry to pursue innovative research, are identified as one pathway to highlight the improvement of linkages between government, academe, and industry in the regions.

On average, CRADLE applications across the regions increased immensely due to the renewed interest of stakeholders in conducting collaborative activities. On the other hand, NICER and BIST applications saw a drop in applications from the baseline data. STRIDE is exploring causes for these decreases, since no specific activities were made in RIIC activities in Year 7 toward these grant programs.

PI31. Number of public sector-funded programs or offices that have improved management practices or technologies as a result of USG assistance (Task 1.2, 3.1, Task 3.2, Task 3.3)

Target 6;

Achieved 5. STRIDE reached 83% of its Year 7 target. Five government agencies highlighted improvements in their own management practices and operational activities with STRIDE-related assistance. The agencies/offices are the following: Fabrication Laboratory (Fab Lab) Mindanao, Commission on Higher Education (CHED) Region 11, DTI Region 5, DTI Region 11, and DOST Region 10.

PI32 (EG.5.2-2). Number of private sector firms that have improved management practices or technologies as a result of USG assistance (Task 3.1, Task 3.2, Task 3.3)

Target 7;

Achieved 5. STRIDE reached 71% of its Year 7 target. Five local firms have signified improvements in their own management operations with STRIDE-related assistance. These include small and medium enterprises (SMEs) such as Bestfriend Goodies, Oro Handmade Innovations, GreenPastures Corporation, LoCoHITechs, and regional chamber association Oro Chamber. Additional firms are currently seeking improvements in the innovation for business recovery activity in response to the pandemic under the RIICs.

PI33. Amount of mobilized funds from Philippine Government on innovation-related activities as a result of USG-supported interventions (Task 1.2, 3.1, Task 3.2, Task 3.3)

Target [REDACTED]

Achieved [REDACTED] of the target was achieved for the fiscal year. Around [REDACTED] was allotted by DOST-PCIEERD for the first 10 winners of the KTTO-IMPACT grants, which is partnered with the KTTO training conducted by the program. On the other hand, DTI has allocated around [REDACTED] for the implementation of the AI Roadmap in partnership with Asian Institute of Management (AIM) and [REDACTED] for the Rural Agro-Industrial Partnership for Inclusive Development and Growth (RAPID Growth) grants. Additionally, the [REDACTED] in mobilized government funds came from the awarded Cagayan de Oro-based HEIs with approved local GIA projects from DOST Region 10. The pandemic has resulted into massive re-appropriation of government funds toward the national government COVID-19 respond funds for the calendar year, affecting the mobilization of funds for projects and programs.

PI34. Number of government staff whose qualifications are strengthened through USG-supported STI-related training programs (Task 1.1, Task 3.3)

Target 5 completed and 5 enrolled;

Achieved 0 completed and 4 enrolled. No participants have completed training as planned activities for the year were moved to the next fiscal year due to the pandemic. Notable is the movement of the final training and graduation of the KTTO program which has around 25 government participants and 3 local mentors under training.

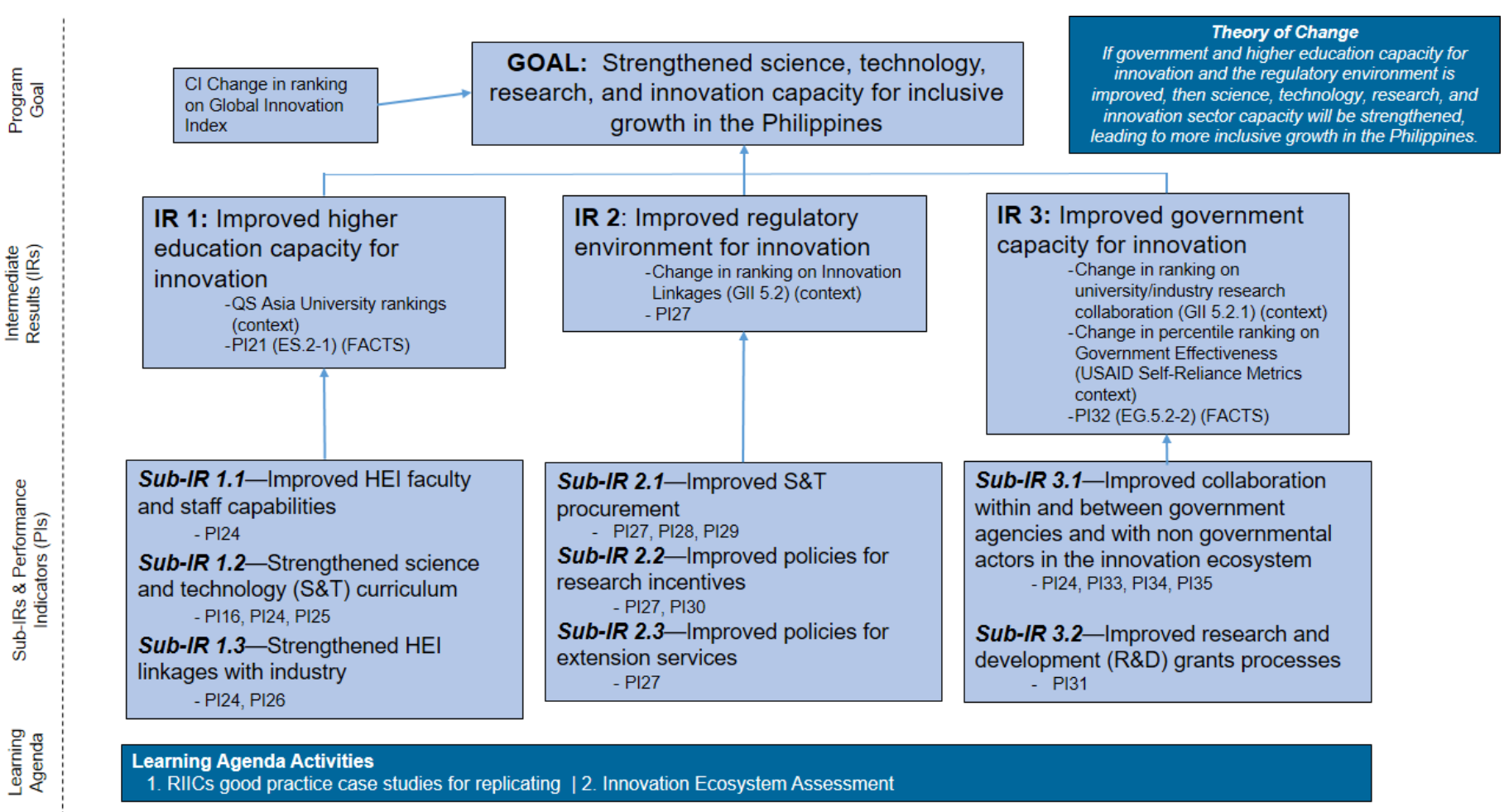
Four new individuals participated in the KTTO trainings for the fiscal year. Two are affiliated with DOST–Advanced Science and Technology Institute, one from DOST–Philippine Nuclear Research Institute and one from the Department of Agriculture.

PI35. Number of established RIICs (Task 3.2)

Target 4;

Achieved 4. 100% of this target (1 new RIIC established) has been reached for the year with the passage of Resolution No. 29 proclaiming the establishment of the RIIC in Zamboanga Region (Region 9), signed by the RDC. This is an inter-government agency effort to institutionalize RIIC efforts to accelerate collaboration and linkages activities in the area.

Figure 4. STRIDE Results Framework



FY2019 AND FY2020 DATA VALIDATION

This fiscal year, STRIDE has conducted data validation activities for FY2019 and FY2020 to ensure validity, integrity, precision, and reliability of the collected MEL data. The process entailed extracting 10% of data through random sampling to assess the quality of data collected for each indicator.

For FY2019 validation, a total of 41 respondents (20 men, 21 women) participated in the data validation activities. A majority of the respondents (68%) were from academe while the rest were from the government (30%) and industry (2%), in proportion to the collected data per PI. FY2020 data validation had 29 respondents (17 men, 12 women) from academe (83%), government (10%), and industry (7%).

Since face-to-face validation activities are not feasible in the current working environment, the respondents answered questions related to the specific intervention provided by STRIDE through a self-administered questionnaire sent via e-mail, phone interviews, or online video conferencing service interviews.

Overall, STRIDE respondents provided positive feedback on the various STRIDE technical assistance/interventions. Recommendations were also shared by the respondents to further improve the design and logistics of the activities. The team also reviewed source documents to ensure the completeness and organization of the files.

The different learning outcomes and stories shared by the respondents on the various activities implemented by STRIDE in this validation process is one of the pathways in capturing evidence-based success stories.

LEARNING AGENDA AND ACTIVITIES

STRIDE Innovation Ecosystem Assessment

The 2019 update of the IEA was successfully launched in September 2020. The public release of the report has been broadcasted through the DOST social media program, DOST Report. The segment highlighted the continuing rise of the Philippines in the GII, one of the major global indices in the field of research and innovation. DOST Undersecretary for R&D Rowena Guevara was joined by RTI Innovation Advisors to discuss and share the key findings and recommendations in the Philippines' innovation landscape.

Back in 2014, the first IEA was undertaken to characterize the landscape of the country's innovation landscape—identifying key players, and characterizing strengths and weaknesses against the selected variables. The updated IEA provided a comprehensive update on the state of human capital in science and technology (S&T), knowledge creation and research activities, technology transfer, institutional support, regulatory policies, and the collaboration and relationship between different players. Improvement was seen on the key variables of the ecosystem and received positive response in the perceived collaboration between the government, academe, and industry; intentional interventions provided by the government; industry's openness to partner with educational and R&D programs of HEIs; and academe's willingness to align with industry.

RIIC Case Study

STRIDE encountered several delays in commencing the RIIC case study throughout the fiscal year. The project was supposed to commence the hiring process of consultants to

develop the case study back in Q2 FY2020, but with the onset of the pandemic and the difficulty in conducting field work for case studies, more focus was given to pivots in implementing the RIICs initiative. In line with this, STRIDE will change the content of the RIIC case study to incorporate changes in the overall strategy. STRIDE will reopen the hiring process in early Q1 FY2021 and aim to produce the case study and socialize with stakeholders by Q3 FY2021.

Fiscal Year 7 Learning Activities

As part of the recalibrating and re-thinking of its strategies, STRIDE conducted an online virtual learning session among its staff in September to discuss and share their important learnings on the challenges posed by the COVID-19 pandemic. During the session, key lessons, pivots, and opportunities were deliberately discussed and documented.

Shifting from Traditional to Digital Platforms

Facilitated by the STRIDE MEL team, one major learning throughout the fiscal year was adapting and implementing activities in a virtual world. The shift from traditional to the digital platform forced staff to become more skilled in utilization of technology and digital platforms. Since the pandemic, the norm in conducting business was through holding a large amount of meetings, webinars, and events virtually.

The staff also had to leverage using alternative channels in communicating with stakeholders. A combination of online messaging applications like Viber, Facebook messenger, and SMS were employed. The use of cloud storage like OneDrive and GoogleDrive were utilized for file sharing between the staff and stakeholders. In being able to adapt in the pandemic setting by switching into virtual platforms, the STRIDE team has managed to thrive in its operational continuity.

Building Stronger Connections through Collaboration

The Chief of Party (COP) also presented his recommendations and feedback. He emphasized that “collaboration with team members and strong connection with stakeholders are essential.” He also strengthened his point on the importance of collaboration with stakeholders, stating, “We are now on track on changing our indicators that are cohesive and significant to USAID, and we cannot do it without the collaboration and input of the team members.”

On the impact of the pandemic on STRIDE's collaboration, the COP added, “The pandemic has pushed us to find alternative ways to collaborate and coordinate with colleagues, partners, and stakeholders.”

Building upon Good Work Relationships with Stakeholders

During the session, the staff agreed that one of the top learnings they had in making pivots on almost all the activities was to consider closely stakeholder sentiment. With the uncertainties of the pandemic, stakeholders had shifting priorities and needs which affected the continuity of activities and the design of new ones. During these discussions, it should be noted that a constant consideration of factors such as resources and timeline should be made.

Prior to the pandemic, stakeholder engagement can be done through a combination of face-to-face meetings, site visits, and check-in calls. In the “new normal,” challenges on sustaining and building stakeholder relationships were emphasized. “It is a challenge to get linkages in a remote world, because of how the situation changed due to the pandemic. So

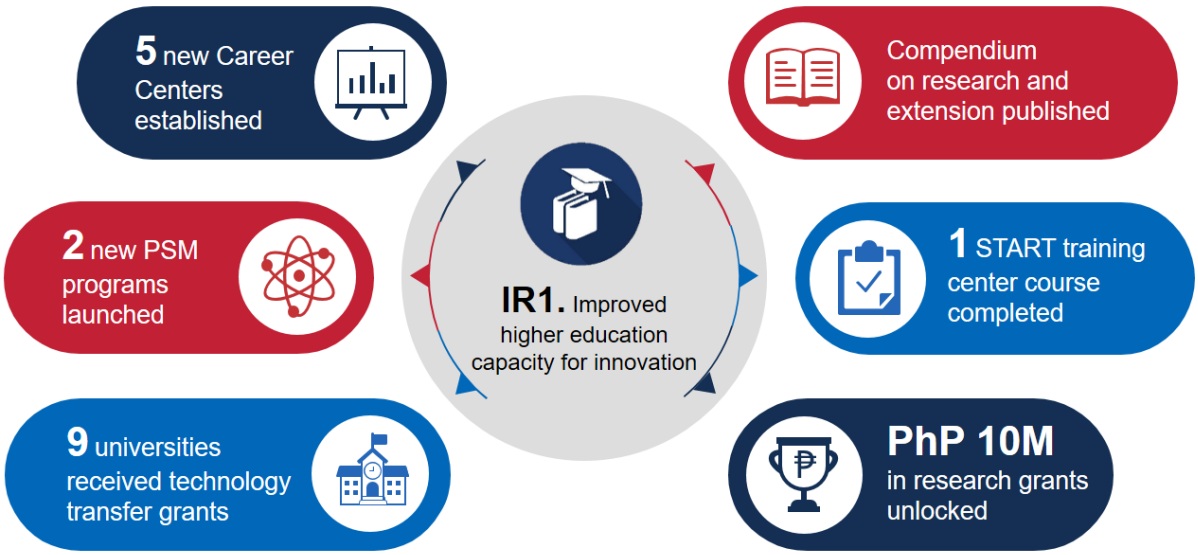
always talk to your stakeholders. Foster those genuine relationships and understand their predicament," added by the COP. Ramping up available lines of communication through different platforms (e.g. Viber, Messenger, MS Teams) would have to be explored depending on what stakeholders are comfortable in using to communicate with project staff.

Forging Ahead Amidst a Pandemic

STRIDE was able to make a meaningful impact to its stakeholders even through the difficulties of the operating environment. Throughout its shift from traditional to online virtual platforms, the staff learned that this shift had to permeate through all their efforts and activities, and that this shift stresses the importance of collaboration and fostering of genuine partnership with stakeholders. STRIDE will continue to explore ways to become more progressive, resourceful, transparent, and creative in its approaches toward a successful closeout of its activities.

IR 1. Improved Higher Education Capacity for Innovation

Figure 5. IR 1 Accomplishments



Year 7 was marked by significant strides in improving the innovation competencies of Philippine SUCs. In parallel with the rollout of training programs for HEIs, STRIDE continues to deepen its engagement with early adopters of its industry-engagement mechanisms such as the Career Centers, KTTOs, and PSM programs.

With this, STRIDE has built a wide network and relationships with HEIs in the Philippines, with the aim of strengthening the latter's ability to collaborate with industries and make their research projects more impactful and relevant.

Task 1.1. Growth of Industry Engagement Mechanisms

Supporting the Establishment and Scale of New KTTOS

Nine universities are on their way toward establishing and/or scaling up their respective KTTOs, ready to apply their learning from a STRIDE- and DOST-supported training program.

In September 2020, the DOST- PCIEERD announced the approval of proposals of nine universities for setting up their technology transfer and commercialization processes. These universities are among the trainees under the KTTO-IMPACT program, which STRIDE implements in partnership with PCIEERD.

The newly awarded IMPACT grantees of DOST | Photos: DOST-PCIEERD

Five of the universities are from Luzon, namely Adamson University, Batangas State University, Bulacan State University, Saint Louis University, and UC.

The four other universities are from Visayas and Mindanao, including the Technological University of the Philippines (TUP)–Visayas, Mindanao State University–Iligan Institute of Technology (MSU-IIT), USTP, and UP Mindanao.

Under the IMPACT Program, each university grantee will receive funds ranging from Php 1 million to Php 5 million. The grant seeks to (1) establish processes and policies on technology commercialization in universities; (2) jumpstart the commercialization of university-owned technologies through protection, assessment, and audit; (3) provide the tools and staffing resources for the conduct of full market assessments of at least six technologies; (4) support the promotion of university-owned technologies; and (5) generate at least two license agreements on PCIEERD-funded technologies.

RTI International Innovation Advisor Jim Redden speaks to Cohort 1 trainees at the KTTO-IMPACT training.

Some of the trainees and mentors of the KTTO-IMPACT training (Connect Module) for Cohort 2. Given the general community quarantine imposed in the Philippines due to COVID-19 pandemic, the training was held virtually. The Connect Module concluded in July 2020.

The KTTO-Impact Training

The KTTO-IMPACT program seeks to develop core competencies in setting up/scaling up KTTOs in universities nationwide. It has two segments, namely the mentors' training and the basic cohort training. The first segment seeks to develop a pool of capable, local mentors to design, organize, and run KTTO trainings without the need for US trainers. The local mentors are also tapped to help the KTTO university-trainees set-up their own technology transfer offices.

The basic cohort, on the other hand, is implemented in four modules, as follows:

- **PLAN Module**. Introduces the KTTO concept and key components in establishing KTTO such as goals, structure and processes, and strategies to communicate KTTO practices.
- **LEARN Module**. Discusses key elements in nurturing faculty relations with industry partners. It features an industry–academe mixer that enables participants to engage and learn from industry practitioners.
- **CONNECT Module**. Focuses on evaluating institutional assets and matching these to potential industry partners.

- **DO Module**. Focuses on the KTTO's engagement with start-ups, how the KTTO can identify market opportunities for students and researchers and gathering best practices from start-ups that can be applied to their KTTOs to make the office more successful.

There are 34 HEIs and 11 RDIs participating in the KTTO-IMPACT training; 9 technology transfer officers are being trained as local mentors to deliver future trainings.

Table 5. List of KTTO Trainees and Mentors

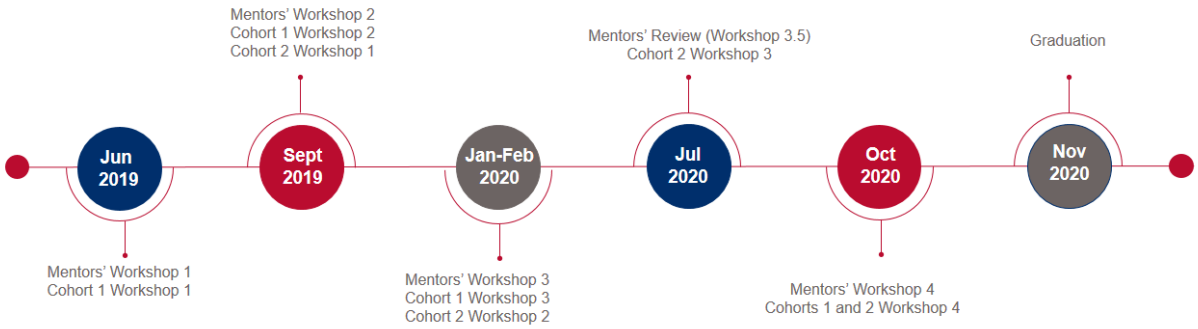
HEI trainees	RDI trainees
Adamson University	DA Philippine Center for Postharvest Development and Mechanization (PhilMech)
Ateneo De Manila University	DOST - Metals Industry Research and Development Center (MIRDC)
Batangas State University- JPLPC-Malvar	DOST Advanced Science and Technology Institute (ASTI)
Bicol University	DOST Food and Nutrition Research Institute (FNRI)
Bulacan State University	DOST Forest Products Research and Development Institute (FPRDI)
Cagayan State University	DOST Industrial Technology Development Institute (ITDI)
Caraga State University	DOST Philippine Council for Health Research and Development (PCHRD)
Cebu Institute of Technology-University	DOST Philippine Council for Industry, Energy and Emerging Technology Research and Development (PCIEERD)
De La Salle University	DOST Philippine Nuclear Research Institute (PNRI)
FEU Institute of Technology	Research Institute for Tropical Medicine (RITM)
Holy Angel University	DOST Philippine Council of Agriculture, Aquatic, and Natural Resources Research and Development (PCAARRD)
Iloilo Science and Technology University	
Mapua University	
MSU-IIT	
Miriam College	
Nueva Vizcaya State University	
Palawan State University	
Saint Louis University	
Silliman University	
Samar State University	
TIP	
TUP Manila	
TUP Visayas	

University of Mindanao	
University of Santo Tomas	
USTP	
University of Southeastern Philippines	
UC	
UP Cebu	
UP Diliman	
UP Los Baños	
UP Manila	
UP Mindanao	
Western Visayas State University	

Mentors	Institution
Russell Pili	DOST-PCIEERD
Edward Apigo	DOST-PCIEERD
Christopher Cruz	De La Salle University–Manila
Michael Peralta	University of Santo Tomas
Marietta Esperanza Cruz	Formerly from MSU-IIT
Agnes Bantigue	UP–Diliman
Abigail Gueco	DOST– Philippine Council of Agriculture, Aquatic, and Natural Resources Research and Development
Crisille Villaluna	UPSCALE
Maria Bernadette Leonor	UPSCALE

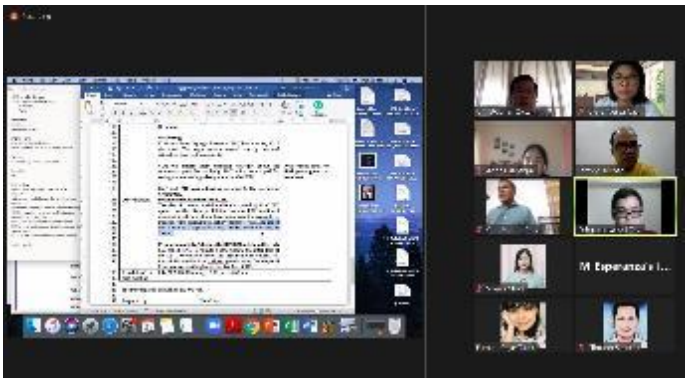
The KTTO-IMPACT training program began in June 2019 and continued in Year 7. By the end of September 2020, STRIDE and PCIEERD rolled out three modules each for Cohort 1 and Cohort 2 trainees, and three workshops for the local mentors. ***Figure 6*** shows the timeline of activities under the training program.

Figure 6. Timeline of KTTO activities



During the third quarter, STRIDE and PCIEERD had to pivot training approaches and were compelled to reschedule the training due to the strict community quarantine measures that affected mobility in the country. Instead of running the training in-person, the sessions were done virtually.

Alliance of TechTransfer Professionals of the Philippines



As restrictions for physical meetings were implemented due to the pandemic, AToP meetings moved to online platforms.

Year 7 saw STRIDE supporting the planning activities of the newly founded Alliance of TechTransfer Professionals of the Philippines (AToP). Comprised of local KTTO mentors and officials from DOST and Intellectual Property Office of the Philippines (IPOPHIL), the association will be formally launched in November 2020.

AToP seeks to professionalize the discipline of technology transfer and advocate for policies and programs that will help promote technology transfer, R&D commercialization, and IP management. Since October 2019, STRIDE supported AToP in convening 10 steering committee meetings which focused on organizational planning for its formal registration, membership, recruitment, and strategic collaboration with WIPO.

From 8 to 23. Expanding Career Centers in the Philippines

Five universities took part in training and mentoring sessions on establishing their own Career Centers, bringing the network of USAID-supported universities and campuses in the Philippines to a total of 23 (***Table 6***) since the start of STRIDE. This cohort of trainees also marks the completion of the program's target for Career Centers.

Table 6. Network of USAID-Supported University Career Centers

Pioneer batch of trainees	Cohorts 1 and 2 (Year 6 trainees)	Cohort 3 (Year 7 trainees)
Ateneo de Davao University*	MSU-IIT	Angeles University Foundation
Palawan State University	University of San Agustin	Bicol University
TIP*	University of San Carlos	Holy Angel University
University of Iloilo - Phinma	USTP-Claveria	Mapua University
University of Santo Tomas*	USTP-Oroquieta	UC
University of Southeastern Philippines*	Batangas State University	
USTP-Cagayan de Oro*	Mariano Marcos State University	
Western Philippines University	Western Mindanao State University	
	Jose Rizal University	
	Far Eastern University	

*Model Career Centers/Mentor HEIs

Center directors from the Angeles University Foundation, Bicol University, Holy Angel University, Mapua University, and UC were the attendees of STRIDE's Career Center training from October 15–18, 2019.

Led by Dr. Jeff Garis of Florida State University, the training covered topics on the role of Career Centers, process in establishing one, Career Center programs, linkages with industry, and local and international best practices. It also included a field visit to one of STRIDE's model Career Centers—TIP in Manila—to provide trainees with a better lens in viewing actual cases of Career Center-related activities.

In November 2019, each of the five universities had online consultations with its mentors to secure further guidance in developing individual proposals and work plans for the establishment of its respective Career Centers.

Two months after, follow-on mentoring sessions transpired as local mentors visited the universities to discuss the progress in relation to the implementation of their mentees' Career Center work plans.

Top photo shows local mentor and Ateneo de Davao University Career Center Director Norman Padilla handing over the Career Center Starter Kit to the UC during a follow-on mentoring session. The photo below shows Dr. Garis during the Career Center training for Cohort 3.

Support for Existing Career Centers

The work to support Career Centers continued, which resulted to the expansion of the network of university career centers to 23.

For Year 7, STRIDE continued to reach out to and engage both model Career Centers and the latter batches of Career Center trainees (***Table 7***). Support ranged from providing capacity-building for model Career Center officers as local mentors, linking universities to resource persons for career conferences, virtual and online consultations on the status of Career Center work plans, follow-on mentoring sessions, and distribution of Career Center Starter Kits.

Curated by Florida State University, the Career Center Starter Kit contains student testing materials and career planning guides that HEIs can use to jumpstart activities and provide key career services. The materials also function as references for Career Centers to mentor other universities that plan to establish their own Career Centers in the future. STRIDE completed the distribution of these kits in August 2020.

Table 7. STRIDE Support for Existing Career Centers

UNIVERSITIES	SUPPORT PROVIDED BY STRIDE
Support for Model Career Centers	
Ateneo de Davao University University of Santo Tomas University of Southeastern Philippines	▪ Recognized as Model Career Center; being honed as local mentor ▪ Visited by Dr. Garis for mentors training ▪ Co-facilitated training and/or conducted follow-on mentoring for new university trainees ▪ Received Career Center Starter Kit
TIP	▪ Recognized as Model Career Center; being honed as local mentor ▪ Visited by Dr. Garis for mentors training ▪ Hosted field visits for university trainees ▪ Received Career Center Starter Kit ▪ Part of discussions supporting shift toward virtual center activities
USTP – Cagayan De Oro	▪ Recognized as Model Career Center; being honed as local mentor ▪ Conducted virtual consultations for Cohorts 1 and 2 ▪ Received Career Center Starter Kit ▪ Part of discussions supporting shift toward virtual center activities
Support for Cohorts 1 and 2	
MSU-IIT University of San Agustin University of San Carlos USTP-Claveria USTP-Oroquieta City Batangas State University Mariano Marcos State University	▪ Continue to receive guidance or advice on Career Center activities ▪ Received Career Center Starter Kit
West Mindanao State University (WMSU)	▪ STRIDE invited resource persons for WMSU's CareerCon 2019 event ▪ Received Career Center Starter Kit
Jose Rizal University Far Eastern University	▪ Visited by Dr. Jeff Garis and local mentors for follow-on mentoring ▪ Received Career Center Starter Kit

Career Center Activities Amid COVID-19

Six months since the community quarantine was imposed in the Philippines, in-campus and other face-to-face HEI activities remain suspended. STRIDE, Florida State University, and partner university Career Centers discussed approaches to helping HEIs adapt to the new realities pertinent to delivering career-related services.

STRIDE, in recent months, organized and supported the conduct of a series of online events on Career Centers, as follows:

1. **Webinar. "The Future of University Career Centers in the Philippines in a COVID-19 Economy."** More than 70 participants from 29 HEIs attended the webinar held on June 2, 2020. The webinar speaker was Dr. Farouk Dey, Vice Provost for Integrative Learning and Life Design at the John Hopkins University. In his presentation, Dr. Dey challenged Career Centers to go beyond building workplace-relevant skills among students, and to look into developing platforms that will help

students better understand themselves and their capacities. He also emphasized the need to provide content, community, and connections that will lead to career opportunities in the long term.

2. **Virtual symposium.** Held from July 27 to 30, 2020, the four-day event tackled the impact of the COVID-19 pandemic to student career development and industry engagements. It offered alternative mechanisms that Career Centers could explore in order to continue providing services to students amid challenges in the new normal. Speakers were Florida State University Career Center experts Dr. Jeff Garis and Dr. V. Casey Dozier.
3. **Online forum and chats.** Hosted by STRIDE and Liyab, a local e-learning start-up providing career services for fresh graduates and young professionals, these activities discussed the role of universities in preparing students for the "world of work." It served as a platform to highlight the importance of university Career Centers, citing the initiatives of USAID-supported Career Centers in the Philippines as examples.

Partnerships on Two New PSM Programs

STRIDE met its Year 7 target to launch two new partnerships for PSM programs.

On November 29, 2019, USJR and Knowles Electronics Philippines formalized their partnership for the development of a PSM program in Electro-Acoustic Engineering. By the next quarter, on March 3, 2020, another partnership was realized when TIP-Manila and CloudSwyft Global Systems signed an MOU to co-develop a PSM program in Data Science. In the course of developing the program, TIP and CloudSwyft also partnered with Emerson Philippines.

To date, there are now a total of 13 PSM programs developed with support from STRIDE.

Left photo shows representatives from STRIDE, Knowles Electronics Philippines, and USJR at the MOU signing on the development of a PSM in Electro-Acoustic Engineering. | Photo: USJR. Right photo shows representatives from STRIDE, CloudSwyft, and TIP during the signing of MOU on the development of a PSM in Data Science.

The PSM in Electro-Acoustic Engineering is the first graduate degree of its kind in the Philippines and in Southeast Asia. It seeks to produce acoustic engineers and encourage local entrepreneurship along the acoustic industry value chain.

The PSM in Data Science, on the other hand, is envisioned to produce a pool of experts and professionals who have the capability to analyze big data to produce actionable insights and innovative solutions for improved operations. The program was virtually launched on September 10, 2020.

About the Industry Partners

Headquartered in the United States, Knowles Electronics operates in Cebu and is a widely recognized leading manufacturer for advanced audio components. The new PSM program will be an integral part of Knowles' human resource strategy in line with its R&D expansion in the Philippines.

CloudSywft is a Philippine-based "Learning-as-a-Provider" tech start-up. Through its learning platform and hands-on laboratories, CloudSwyft helps upskill and reskill workforces in the Philippines, Singapore, and Malaysia to make them responsive to today's rapid digital transformations. CloudSwyft has participated in several STRIDE activities, one of which was an industry-academe mixer in January 2020 under the KTTO-IMPACT training, which TIP attended. With support from STRIDE, CloudSwyft and TIP began to explore areas of collaboration. In a month's time, both agreed to partner and develop a PSM program in Data Science. ***Table 8*** provides the partners' statements.

Table 8. Industry and Academe Partners' Statements

USJR	Knowles Electronics Philippines	TIP	CloudSwyft
"*We are excited to work in this system where universities become market-driven providers of talent and knowledge, equipping more graduates and faculty to contribute to economic growth driven by rapidly growing technology*." Fr. Cristopher Maspara USJR President	The program serves as a key piece in establishing Cebu as "*the acoustic hub of the Philippines*." Joseph Liwag Knowles Electronics Philippines Managing Director	"*With your (USAID) support, we were able to fast track our vision 2020. We had been enabled and challenged, blazed and explored trails that we did not even imagine existed*." Elizabeth Quirino-Lahoz TIP President	The PSM program's importance, given the increasing demand for data scientists locally and abroad, has to be highlighted. PSM in Data Science students will have a place in the corporate world upon graduation. Prince Datu CloudSwyft Vice President for Business Development

Task 1.2. Technical Assistance to the Implementation of PASUC PISI

Innovating as We Heal As One: A Compendium

"Innovating as We Heal as One"—a compilation of SUC-led research and extension projects on addressing pandemic-related challenges in—took the spotlight at the first Digital Summit of the PASUC.

With support from STRIDE, PASUC collected information on 264 projects as reported by 74 of the country's 112 SUCs. A majority of these were in the form of providing immediate aid to frontliners and affected communities, such as the production of personal protective equipment using university Fab Labs, and the distribution of food and related products, many of which are based on technologies developed by faculty. The compendium also highlights new technologies by some universities that address more complex issues brought about by the pandemic, including, among others, the following:

- Several village-scale ethanol production facilities fabricated and deployed by Mariano Marcos State University (MMSU) in Ilocos Norte, which enabled the province to produce medical-grade alcohol sourced from endemic raw materials

and distributed even in other parts of the Philippines. A previous STRIDE grant supported the initial research of the university.

- A robot "Roving Doctor (RoviDoc)" invented in Bulacan State University currently being utilized by the local government to help reduce the exposure of doctors and nurses while treating patients affected by the coronavirus.
- A laboratory study led by UP to assess the efficacy of convalescent plasma transfusion from recovered patients as a means to prevent the disease progression among afflicted patients.

The Compendium complements knowledge and experiences shared during the PASUC Summit. Speaking at the event, New York University Professor Michael Purugganan and Dr. Gisela Concepcion, President of the Philippine-American Academy of Science and Engineering (PAASE) provided a global perspective on how some universities in the United States and other countries address the needs of communities in the time of pandemic. On-ground and local perspectives were provided by the respective President of Mariano Marcos State University, Cebu Technological University, and Caraga State University.

PASUC's digital summit is aimed at underscoring various research extension efforts of SUCs across the country to mitigate the impact of the COVID-19 pandemic.

Presented by PASUC in partnership with STRIDE, the PASUC Summit was held on August 26, 2020, with the theme, "Making Research and Extension Work for COVID-19 Response: Innovation Initiatives by Philippine State Universities and Colleges." More than 300 presidents, vice presidents, and officials from 112 SUCs attended the virtual event.

Present at the event was USAID Office of Education Director Thomas LeBlanc, who expressed his appreciation for the partnership between USAID and PASUC.

> ***"Through the visionary leadership of [PASUC President] Dr. Tirso Ronquillo, we worked together on PASUC's own innovation roadmap as well as the Innovation Diagnostics that would help you become more attuned to what your institutions need and to become more competitive," LeBlanc said.***

The summit also served as an opportunity to present key points of a STRIDE-supported policy paper that aims to redefine what constitutes the foundational elements of SUC research and extension based on local paradigms and international best practices. The document will be officially published as a PASUC reference paper under its Platform for Innovating SUCs for Industry 4.0 (PISI) roadmap.

Task 1.3. Faculty and Researcher (START) Training Center

A Good Start! Pilot Course Concluded

Completing five months of training and mentoring, the START course "Writing A Scientific Paper for Publication" concluded with a total of 12 researcher-trainees from nine universities as graduates.

The graduates were faculty and junior researchers from (1) Cebu Technological University, (2) Don Mariano Marcos Memorial State University, (3) Marinduque State College, (4) Northwestern Mindanao State College of Science and Technology, (5) Nueva Ecija University of Science and Technology, (6) Philippine Merchant Marine Academy; (7) TIP, (8) UC, and (9) UP–Visayas.

Everyone in the course completed his or her research manuscripts. Two of them are currently revising their studies based on the responses and comments from peer-reviewed journals on their initial drafts.

> ***One of the graduates, Dr. Jomar Aban of Don Mariano Marcos Memorial State University, succeeded in having his manuscript accepted by the* Philippine Journal of Science*. His research "In Vitro Growth-Promoting Properties of Non-Dominant Root Symbiotic Fungi from Drynaria Quercifolia L. and their Effects on PSB Rc10 Rice" was published in the journal's September 2020 issue.***

SPOTLIGHT!

DR. JOMAR ABAN

Take-Away

Dr. Aban said he remembers the advice to put an emphasis on "novelty" when conducting scientific research. He learned the importance of looking at the applications of the research not only from a local perspective but also on a broader, international context.

Feedback on the Course

Dr. Aban and the trainees praised the unique design of the course, citing the mechanisms for dedicated mentorship and regular monitoring of the trainees' progress.

Peer Review Experience

Dr. Aban described his peer review experience with the Philippine Journal of Science as "intense." He said that researchers must "compose ourselves before going through revisions" and succeeding discussions until the reviewers approve a final draft.

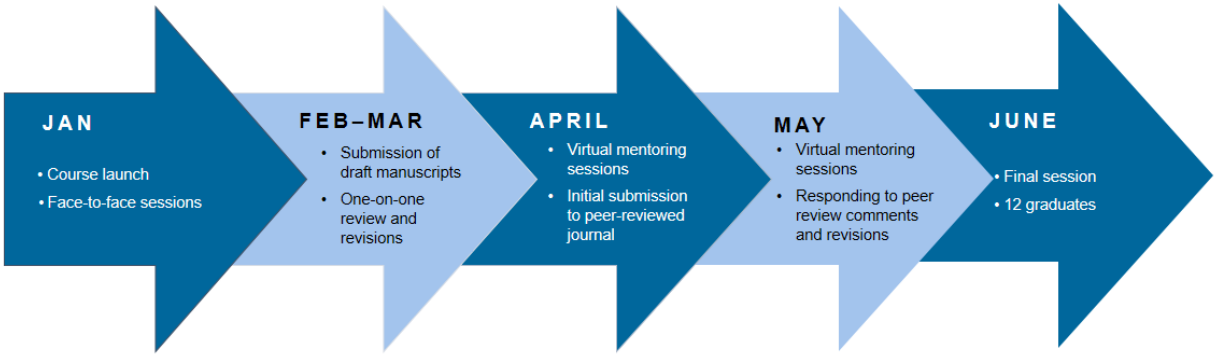
Course Outcome

Dr. Aban's research has been published by the *Philippine Journal of Science* in September 2020.

Developed and run by STRIDE local consultants and De La Salle University (DLSU) senior research faculty Dr. Raymond Tan and Dr. Kathleen Aviso, the START pilot course sought to improve the capabilities of researchers and faculty to publish in peer-reviewed journals. It commenced on January 27–28, 2020, and concluded on June 22, 2020.

The course combined face-to-face training and virtual mentoring sessions. It featured one-on-one sessions that zoom into helping the trainees improve their respective scientific papers based on comments from peer reviewers. ***Figure 7*** shows a timeline of the implementation of the START course on writing a scientific paper.

Figure 7. Implementation Schedule of the START Course on Writing a Scientific Paper



Since Year 6, STRIDE has explored various avenues for selecting the host of the START Center. This included an initial discussion with CHED and UP Manila in Q2 of Y7 to take advantage of an existing similar initiative to be funded by CHED. However, with UP Manila in the front line of several initiatives to address the pandemic, negotiations were suspended, and STRIDE reverted to its initial plan for a public call for proposals.

In September, STRIDE launched the formal application process for START Center sub-award, envisioned as a USAID-supported professional development center to be hosted by a Philippine HEI or training institute, for building research-related skills of Filipino researchers and faculty.

Thirteen HEIs and institutes responded to the call for applications and submitted their concept proposals for operating the START Center. Concept proposals were also required to highlight how applicants can ensure sustainability and quality of START courses even after the sub-award is completed. STRIDE is employing a two-stage selection process, where applicants submitting viable concept briefs move forward to the second stage and will each be required to submit a more comprehensive proposal based on comments and requirements identified in the previous stage.

STRIDE expects to complete the selection process for the host of the START Center by Q1 of Year 8. Operation of the START Center is also expected to begin in that quarter, with the sub-award expected to be used to support the first 6 to 8 months of center operations. Aside from the sub-award, STRIDE will also turn over two previously developed training modules, “Writing a Scientific Paper for Publication” and “Managing Research Projects,” to allow the Center to immediately offer courses upon its opening.

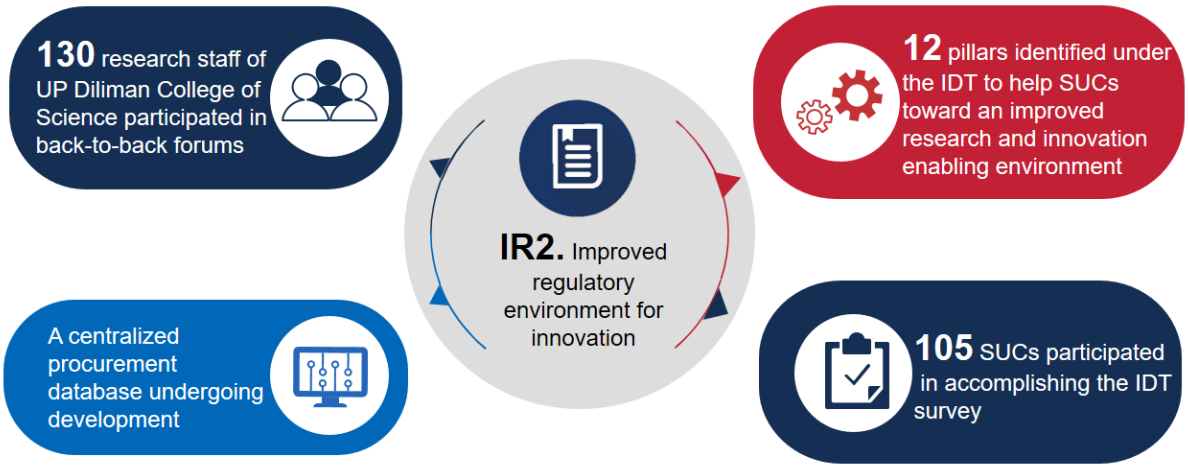
Task 1.4. R&D Grant for Widening Applications of Research within the Pandemic (WARP)

In August 2020, STRIDE launched the application process for the WARP grants, which aim to support the expansion or acceleration of research projects by previous STRIDE research grantees within the operating environment of the pandemic or the “new normal.” Potential grantees will come from previous STRIDE grant programs such as the Collaborative Applied Research with Industry (CARWIN), Philippine-US Research and Exchange (PURE), and the Academic Grants for Industry-Led Applications (AGILA).

A total of 27 applications were submitted by HEIs all over the Philippines during the initial call for concept papers. STRIDE is employing a two-stage selection process, with high-potential proposals advancing to a co-development stage prior to a final selection and award. STRIDE will complete the awarding of grants by the start of Year 8, with grant implementation expected to begin in Q1 for an indicative 6-month period of performance, allowing the project to complete activities by May 2021.

IR 2. Improved Regulatory Environment for Innovation

Figure 8. IR 2 Accomplishments



Central to achieving STRIDE's goals under IR 2 are activities supporting improvements in the R&D policy and regulatory landscape, particularly in the areas of procurement and HEI research incentives and extension.

In Year 7, STRIDE's work zoomed in on finding interventions that will improve the R&D procurement processes at UP, where a significant volume of the country's scientific research is conducted. Year 7 saw important progress in addressing research and extension challenges in universities, with STRIDE digging into the core issues and recommendations that help improve HEIs' capacity to pursue such R&D and innovation-related activities.

The focus resulted in three major outputs critical to meeting expected outcomes from the IR activities: (1) development of a centralized R&D procurement database for the UP Diliman College of Science; (2) conduct of the IDT survey, which provided STRIDE a broader, larger view of the factors driving or impeding research and extension at the universities; and (3) a policy paper on R&D incentives and extension for adoption of the PASUC member institutions.

Task 2.1. Improved Procurement Policy/Legislation for R&D

Charting the Path Toward Improved R&D Procurement

"Build a centralized R&D procurement database"—this was one of the key recommendations that echoed through the R&D procurement forums that took place at UP Diliman College of

Science February 3 and 10, 2020. The proposed database must list all R&D equipment procured by different units and institutions under the College of Science. It should also compile available suppliers for R&D-specific products. Organized by STRIDE and the College of Science, the procurement forums validated information gathered about the university's procurement process. They also gathered feedback and recommendations ***(Table 9)*** supportive of the efforts to improve the R&D procurement system.

The back-to-back forums were attended by more than 130 active research staff directly involved in the College's procurement transactions, and representatives from key institutions relative to the procurement system. These offices include the College of Science, the Government Procurement Policy Board (GPPB), UP System Procurement Office, and UP–Diliman administrative units such as the Accounting Office, Supply and Property Management Office, and Office of the Vice Chancellor for R&D.

(Left photo) Associate Dean Ricky Nellas leads discussion with GPPB Deputy Executive Director Elmira Cruz-Caisido about the College's R&D procurement concerns. (Right photo) Dean Nellas gathers feedback from one of the R&D Procurement Symposium participants | Photo: UP Diliman

With over Php1 billion-worth of external funding, the College of Science has significantly contributed to the country's R&D productivity. It produced 55% of all journal publications in UP Diliman campus, and 22% in the whole of the UP system.

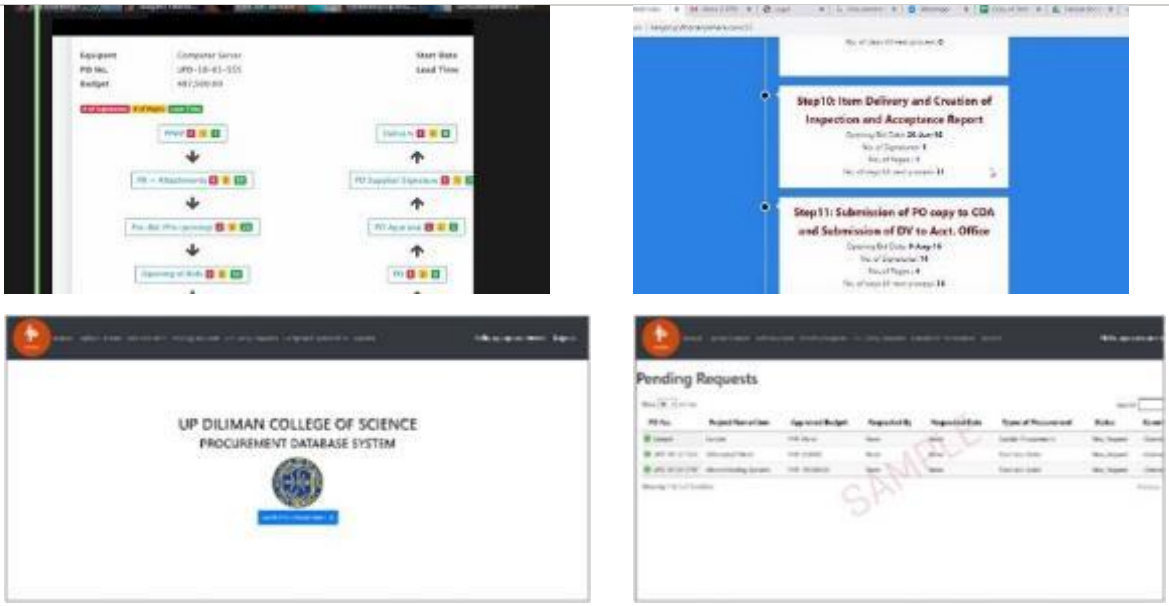
> ***"If we unlock one of the problems [procurement problem] that have been identified by USAID through STRIDE—at least reduce it and make it easier for our researchers to do research and procurement—then probably those numbers will not just double, it could actually surpass and unlock our potential in the college," Dean Tapang said.***

Table 9. Summary of Recommendations

UP Procurement Forums Recommendations
Share the updated benchmark for procurement of scientific and technical equipment and continued education and decentralized training of procurement and administrative officers in each department and unit.
Work with GPPB to clarify the equivalency document of local registration requirements (e.g., mayor's permit) for foreign bidders.
Build a system-wide database of all equipment procurement by decentralized offices reporting to the Head of Procuring Entity (HoPE).
Build a centralized database and compile available suppliers for R&D-specific products with assistance of the DTI and Securities and Exchange Commission.

Conduct dialogue with the Bureau of Internal Revenue and Commission on Audit (COA) for input/compliance reading of GPPB, like Section 53.6, and any HoPE administrative interventions moving forward.
Determine the steps necessary for researchers to adopt alternate procurement modes supported by Section 53.6.

The proposed procurement database



Sample pages from the proposed procurement database

In Q4, Mr. Ken Jon Tarnate, a data engineer by profession, was onboarded to STRIDE to lead development of the R&D procurement database for the UP Diliman College of Science, with technical guidance College of Science Assistant Dean Ricky Nellas and STRIDE senior consultants Al Serafica and Gani Padolina. Strategy and coordination meetings were conducted frequently to synergize on ideas and roll out the mechanism to stakeholders.

In a meeting between STRIDE and College of Science Assistant Dean Ricky Nellas on September 30, the team discussed the updates on the development of the database, particularly on its content and interface. The database, which is currently developed as a beta version, allows end users to input historical, ongoing, and pending procurement transactions along with the status and its supporting documents. This allows administrators to cross check the information provided with the uploaded files. A feature that is expected to be integrated in the next fiscal year is the AI model to predict the most optimal and efficient pathways for a specific R&D item for acquisition.

The team is preparing for the conduct of a small-scale database pilot test among 30 participants from different institutes under the College of Science.

Emergency R&D-Related Procurement

Due to the COVID-19 pandemic, a number of HEIs had to use the law's emergency procurement provisions to work on urgent purchases meant to mitigate the impact of the disease. For this purpose, the GPPB and the COA released a joint memorandum order on streamlining emergency procurement guidelines in light of COVID-19. Unfortunately, STRIDE faced challenges in capturing emergency procurement data due to

the political complexities surrounding the issue. STRIDE was not able to access information on this, as stakeholders were reluctant to share the information. With this, STRIDE has instead focused on procurement for scientific goods and services through the development of the database.

Responding to the need for information on possible R&D suppliers amid the pandemic, which saw an immediate setback in operations, and supply chain disruptions, for most companies, STRIDE supported the College of Science's efforts to track and update the operational status of companies specific to R&D goods, equipment, and services. The effort served as a starting point for the College to scope the supplier availability landscape upon resuming procurement activities.

Task 2.2. Improved HEI Codes and Policies on Research Incentives and Extension

STRIDE's studies on drivers impacting HEI research and extension services reveal the need for a holistic enabling environment to increase research productivity and extension among faculty members. In light of this finding, STRIDE embarked on two major initiatives that seek to view enabling factors and challenges from a wider perspective: (1) the IDT survey, and (2) development of a unified reference paper on research and extension.

Survey and Paper: Assessing the Universities' Innovation Landscape

The IDT is key to "developing R&D that will make our SUCs really ready to participate in this new era of industrial revolution," said PASUC President Tirso Ronquillo.

IDT TWG Members and STRIDE Senior Consultant Napoleon Juanillo, Jr., discuss the results of the survey. | Photo: PASUC

With 105 SUCs participating in accomplishing the self-reported instrument, the IDT assesses the research readiness and capacity of an HEI. Information resulting from the IDT survey will help facilitate directional changes and policy improvements in universities toward an improved research and innovation enabling environment.

This year, STRIDE has concluded the socialization of the IDT survey results. STRIDE Senior Consultant Napoleon Juanillo, Jr., led the socialization of the 12 pillars of the study, namely: (1) leadership, (2) management, (3) innovation-support infrastructure, (4) linkages and partnerships, (5) basic and applied research, (6) industry-facing research teaching, (7) 21st century research competencies, (8) industry-facing curriculum, (9) 21st century facing curriculum, (10) industry-facing extension, (11) community-facing extension, and (12) global research-innovation initiatives.

A technical working group (TWG) was formed to supervise the survey administration. The TWG core members are PASUC President Tirso Ronquillo, Batangas State University Vice President Albert Amante, Cebu Technological University Vice President Adrian Ybañez, and statisticians Roselle Collado and Realiza Mame. The team engaged in productive conversations throughout the year to co-develop and agree on the conceptual definitions and clustering of pillars. The specific metrics in each of these pillars were originally drawn by

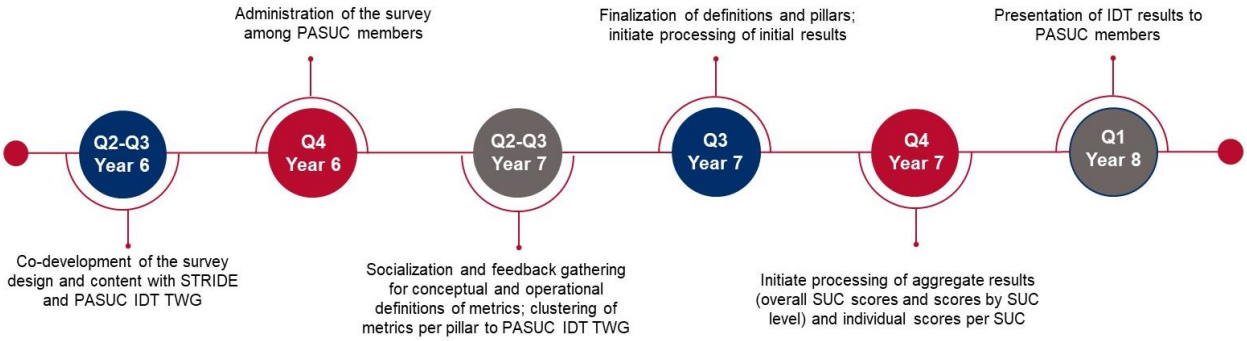
the TWG from PISI Reference Paper 1: Philippine State Universities and Colleges: Shaping Intellectual Capital and Innovation in Industry 4.0. These were supplemented by other global measures utilized by the Times Higher Education and QS University Ranking to determine performance excellence in instruction, research, and public engagement by colleges and universities worldwide.

The survey involved the following activities:

- Gathering input from the TWG on the survey design and content
- Administration of the survey among PASUC members (Data were gathered during a workshop that formed part of the PASUC Innovation Symposium on October 24, 2019)
- Initial processing and socialization of the survey results
- Second socialization of the survey results
- Follow-on discussion into the statistical soundness of the assessment

The IDT results will be launched to the public in Year 8. ***Figure 9*** shows the timeline of activities related to the IDT.

Figure 9. Timeline of IDT Activities



Research and Extension Reference Paper

Complementary to the IDT survey is the development of a reference paper on research and extension, which was released and presented at the first PASUC Digital Summit on August 26, 2020, with support from STRIDE.

The reference paper aims to build a unified understanding among SUC presidents, senior administrators, and faculty on research and extension as a (1) stimulus for local and regional innovations, (2) platform for social change, and (3) pathway to build responsive structures and resilience in the post-pandemic era. It provides guidance and action points for SUCs toward building the foundational elements of SUC research and extension.

To improve the faculty's mindset and capabilities in relation to research and extension, the paper recommends looking into two areas: support to faculty and crafting new metrics to measure research and extension productivity (***Table 10***).

Table 10. Summary of Recommendations to Improve Research and Extension Productivity

Support to Faculty	
Individual faculty assessment	Provide programs to help the faculty understand and navigate through their personal motivations, personal disposition, disciplinal strengths, level of research skills, and autonomy and commitment
Financial assistance	Allocate budget for training and continuing education
Training and continuing education	Topics may include research practices, grant writing, data management, data analysis, and manuscript preparation
Internal funding for research	Direct support for faculty members such as sabbatical leave policy to enable research time, summer research grants, and access to resources
Research recognition	May come in the form of university features, faculty awards system, and financial incentives
Teaching load reductions	Possible practice: nine hours per week for research work instead of teaching
Collaboration with the university's network	Introduction to local and international network of scholars
Academic pathway	Indicators include citations as measure of research visibility
Economic pathway	Indicators include patents and patent publications as a result of industry engagements
Policy pathway	Indicators are based on the research's impact on policymaking processes
Civic pathway	Indicators include number of symposiums and forums hosted in the local community based on results of research

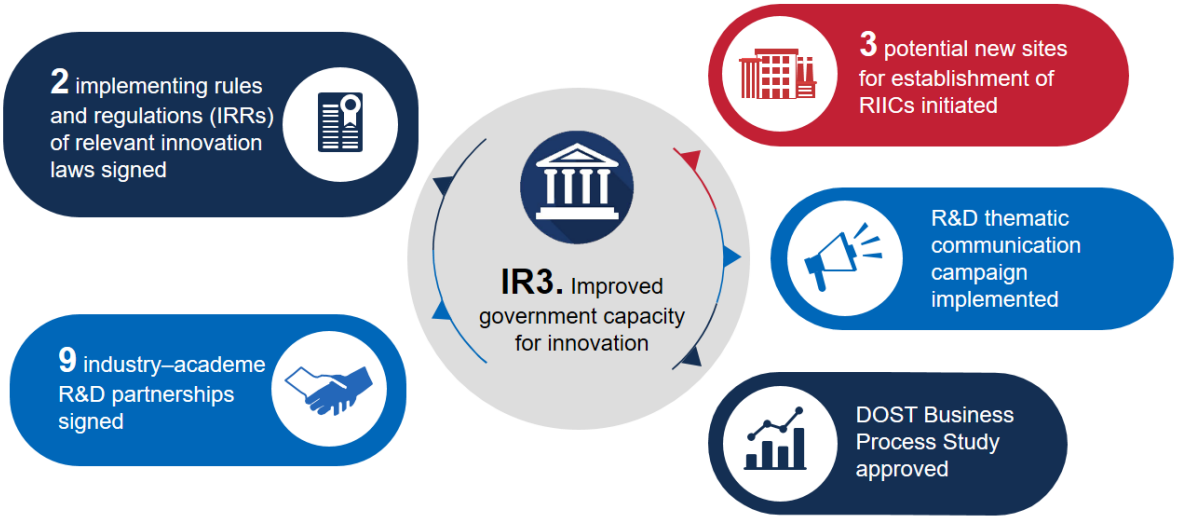
PASUC President Tirso Ronquillo remarked that the paper "comprehensively presents a framework for research and extension that is appropriate for SUCs." He added that the suggestions in relation to "developing a research culture in the university would be very helpful for SUCs."

Given the pandemic-driven landscape in which SUCs currently operate, STRIDE's paper also provided a lens on the role of SUCs toward mitigating COVID-19. It describes research and extension as the most tangible platforms where SUCs can demonstrate their ability to deal with unexpected crises such as the pandemic.

A segment of the paper tackles how research and extension can "play a critical role in finding solutions to myriad problems brought about by the COVID-19 pandemic —from disease modelling and vaccine development to food security and sustainable livelihoods among others." It outlined recommendations on how universities could drive initiatives in the post-pandemic era by pursuing a number of United Nations Sustainable Development Goals (SDGs) such as zero hunger (SGD 2), good health (SDG 3), education (SDG 4), and water and sanitation (SDG 5).

IR 3. Improved Government Capacity for Innovation

Figure 10. IR 3 Accomplishments



STRIDE continues to provide support to government agencies that are key to boosting the innovation ecosystem in the Philippines. STRIDE's technical assistance is categorized under four primary tasks as follows: (1) Philippine convergence efforts, taking on the principles of the DTI's Inclusive Filipinnovation and Entrepreneurship Roadmap; (2) RIICs; (3) support to DOST programs; and (4) support to a CHED study.

Task 3.1. Philippine Convergence Efforts on Innovation

Signing of Two IRRs—Taking a Step Closer to Innovation and Convergence

Year 7 identified entrypoints for stakeholders to leverage as they work toward building a more robust innovation ecosystem in the Philippines. These pathways were created with the signing of the respective IRRs of the Innovative Startup Act and the Philippine Innovation Act (PIA).

At the conclusion of the first Philippine Startup Week on November 22, 2019, Department of Information and Communications Technology (DICT) Secretary Gregorio Honasan II, DOST Secretary Fortunato de la Peña, and DTI Secretary Ramon Lopez signed the IRR of RA 11337 or the Innovative Startup Act.

RA 11337 provides that any start-up—defined as "any person or registered entity in the Philippines which aims to develop an innovative product, process, or business model"—may qualify for benefits and incentives, including subsidies, facilitation of business registration, and start-up visas. The law creates a Startup Venture Fund and a Startup Grant Fund "to provide initial and supplemental grants-in-aid" for qualified start-up applicants.

On February 7, 2020, the IRR of another innovation-boosting law—RA 11293, also known as the PIA—was signed by key government agencies led by National Economic and Development Authority (NEDA), DTI, and DOST. The agencies were represented by then NEDA Director-General Ernesto Pernia, DTI Secretary Lopez, and DOST Secretary de la Peña.

(seated) DTI Secretary Ramon Lopez (6th from left), NEDA Director-General Ernesto Pernia (7th from left), and DOST Secretary Fortunato de la Peña (8th from left) are joined by other key Philippine government officials at the ceremonial signing of the Philippine Innovation Act's IRR. | Photo: DTI

The PIA seeks to harmonize the government's innovation policies and programs and champion technological advancements in the Philippines. It creates the National Innovation Council that will serve as the country's policy advisory body in the formulation and monitoring of innovation initiatives. Other salient features of the IRR include, among others, the strengthening of micro, small, and medium enterprises' (MSMEs) position in the innovation ecosystem and promoting partnerships between and among academe, government, industry, MSMEs, and research development institutes.

> ***NEDA Director General Ernesto Pernia expressed confidence that the implementation of the law "will improve the country's innovation governance by eliminating the fragmentation of innovation policies and programs at all levels."***

STRIDE provided technical inputs through the DTI-CIG to the draft IRR of the two laws. In supporting the development of the IRR of the Innovative Startup Act, STRIDE presented the merits of a steering committee that will oversee the law's implementation. In the case of the PIA IRR, STRIDE provided inputs related to its alignment with the Startup Act IRR and harmonization with existing government innovation efforts.

The IEA Update: Reporting Gains in the Philippine Innovation Ecosystem

In partnership with the DOST, STRIDE launched the Philippine IEA 2019 Update study. The public release was broadcasted on September 18, 2020, through DOST Report, the agency's weekly online program featuring Secretary Fortunato de la Peña.

> ***USAID/Philippines Mission Director Lawrence Hardy II delivered a message of support for the Philippines and DOST's successes in innovation, citing the rise in ranking of the country in this year's GII. Secretary de la Peña, meanwhile, acknowledged the support of USAID and thanked the organization for being a partner in development.***

(L-R) USAID/Philippines Mission Director Lawrence Hardy II, DOST Secretary Fortunato de la Peña, and RTI International Innovation Advisors with DOST Undersecretary for R&D Rowena Guevara during the public release of the results of STRIDE's Philippines IEA 2019 Update study.

The program featured a discussion between Undersecretary Guevara and RTI Innovation Advisors on the results of the study. According to the IEA 2019 Update, stakeholders have an overall optimistic perception of the country's innovation ecosystem.

Key Findings

The study shows that 68% of 319 individuals surveyed believed the Philippines innovation landscape has improved since 2014. The improvements were mostly attributed to factors such as (1) intentional interventions from government, (2) increased focus from academia to align with industry, and (3) industry's increased openness and willingness to collaborate with academia on human capital development and R&D.

It advises the Philippines to work on remaining challenges in the areas of STI-related procurement, R&D investments and mechanisms, collaboration toward holistic goals and mutually beneficial outcomes, raising awareness about innovation opportunities, and generating examples of local successes in entrepreneurship to further drive successful start-ups.

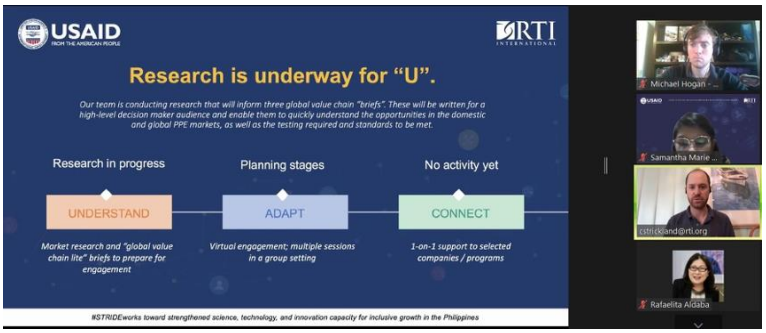
Prior to the launch, STRIDE, together with RTI Innovation Advisors, presented the initial results of the IEA 2019 Update and sought inputs of key high-level government officials, including DTI Undersecretary Rafaelita Aldaba, DOST Undersecretary Rowena Guevara, Department of Agriculture (DA) Undersecretary Rodolfo Vicerra, NEDA Director Richard Ballester, and DICT Director Rior Santos. STRIDE also socialized the report with DOST Assistant Secretary for Policy Development and Planning Maridon Sahagun and CHED Director Nelson Cainghog.

On July 17, 2020, key findings of the IEA were also presented virtually by the RTI Innovation Advisors to officials of USAID/Philippines. The full report can be accessed at *https://stride.org.ph/wp-content/uploads/2020/09/2019_STRIDE-Philippines-Innovation-Ecosystem-Assessment-Update_6.30.20.pdf*.

Exploring Challenges and Opportunities for the PPE Industry Sector

In support of the DTI's call to strengthen an innovative and competitive PPE manufacturing sector, STRIDE began the Understand-Adapt-Connect (UAC) activity this year. The program involves research, analysis, and technical assistance with private firms and industry associations and is being headed by RTI Innovation Advisors in partnership with DTI.

Photo: DTI



Update meeting with RTI Innovation advisors and DTI

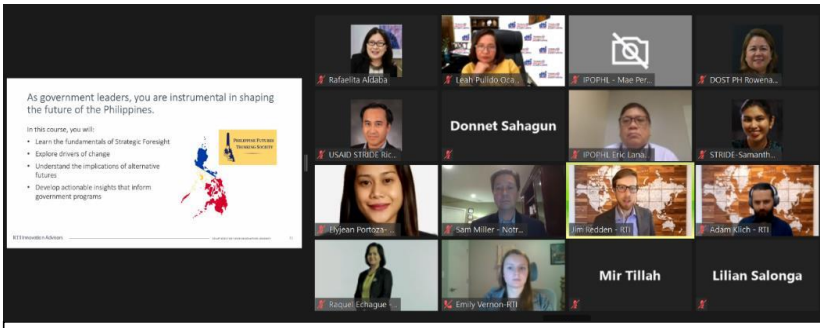
The first "Understand" phase of the UAC initiative is meant to explore the local and global value chain of the PPE sector. US-based consultants are working with local consultants to gather insights, data, and trends that will be presented in three published briefs to DTI. The team has already conducted interviews with eight local manufacturing firms and associations that have pivoted toward PPE production or have been part of PPE manufacturing in the country. Initial findings have already been shared through a presentation to the DTI-CIG.

Interviews with regulatory and other relevant government agencies will be conducted, with the briefs to be provided to DTI by the end of Q1 of Year 8. The design and implementation of the subsequent phases will be based on the evaluation of the first phase results.

Organizing Learning Sessions and AI Consultations

Strategic Foresight Training

STRIDE began the implementation of a 6-week course titled "Strategic Foresight: Preparing Government Leaders For Uncertain Futures." The training was organized in recognition of the vital role of government officers in shaping the country's future innovation programs and policies. This is also timely given the disruptions brought about by the pandemic to priorities of government partners, which may require new strategies and approaches.



Participants of the strategic foresight thinking workshop include an assistant secretary, directors, and officers from the Department of Trade and Industry, Department of Science and Technology, and Intellectual Property Office of the Philippines.

The Strategic Foresight Training is designed for Philippine government leaders to learn about the fundamentals of strategic foresight and explore emerging trends that will impact the Philippines in the next few years. The goal is to help government leaders conduct scenario planning and learn how it interplays with the government's strategy development, policy making, and reshaping programs amid ambiguities in the local and international landscapes. Participants are also formed into multi-agency teams to encourage convergence and learning as well as to work together to deliver their capstone projects, which will be presented to senior officials from DOST, DTI, and local foresight experts.

US-based innovation and foresight training experts from RTI International and University of Notre Dame are delivering the series of remote training sessions. The training participants are senior-level officials from the DTI, DOST, and IPOPHL.

The first workshop was held on September 29. The next sessions are scheduled on October 6, 13, 20, 27, and November 3.

Strategic Communication Workshops and Training

In Year 7, STRIDE completed the rollout of three Strategic Communication Planning workshops and one News Writing Course for the DTI–CIG.

The workshops and training form part of STRIDE's technical assistance on strategic communication for the DTI–CIG. The support is (1) strengthening the DTI-CIG's competencies to communicate information that is relevant to the planning and implementation of innovation-related policies and programs, (2) supporting and complementing the DTI's overall communication initiatives by ensuring the effective delivery of key messages on innovation, and (3) promoting innovation among target stakeholders.

Workshop Series

The series of workshops was delivered by STRIDE Communication Consultant Nini Santos. It comprises the following sessions:

- **July 23 and 28. Message Development**. Aimed to crystalize the key messages that the CIG wishes to deliver. Through this session, the team developed the CIG Message Box, which serves as a guide in planning the content of CIG communication materials.
- **August 4 and 14. Media and Tactics Planning**. Aimed to identify tactics that could effectively deliver DTI–CIG key messages. The workshop resulted in a basic roadmap/action plan for the CIG's communication-related initiatives.
- **Sept. 15 and 22**. **Communication Structure and Resource Identification**. Aimed to identify DTI–CIG's communication challenges and requirement and find ways to address them. During the session, participants outlined recommendations in the areas of CIG/agency positioning, people and human resource skills, communication process and protocols, and communication resources and assets.

Speaking at the start of the workshop, DTI Undersecretary Rafaelita Aldaba expressed her optimism that through the workshops and learning sessions, DTI–CIG staff can enhance their communication skills and become more creative and innovative in delivering desired messages and information to target public. She expressed her gratitude to USAID STRIDE for its continuous support to DTI's innovation work.

The workshop participants include eight select technical staff from the Office of the Undersecretary for CIG, and the bureaus under it, namely, the Bureau of Trade and Industrial Policy Research, Competitiveness Bureau, and Philippine Accreditation Bureau.

Results of the workshops will be presented to Undersecretary Aldaba and the leadership team of CIG–with the goal of influencing the team's actions in relation to communication.

Top photo shows (L-R) DTI Undersecretary Rafaelita Aldaba, STRIDE Communication Consultant Nini Santos, and STRIDE COP Richard Abendan at the opening session of the Communication Planning Workshop for DTI-CIG. The second photo shows the participants at the workshop series.

News Writing Training

STRIDE held three learning sessions on news writing for DTI-CIG select staff on September 1, 4, and 7, 2020. The training sought to help hone the learners' ability to write newsworthy stories about the CIG's policy recommendations, programs, studies, events, and other initiatives.

Philippine Daily Inquirer Business Features Editor Tina Dumlao served as the resource person. During the training, Ms. Dumlao highlighted the need for the participants to read as much as they can and be updated on current events in order to improve their writing. She advised the participants to connect CIG stories to bigger pictures and things that are relevant to the public, as she outlined the key elements that media look for when deciding which news stories to publish.

Also stressed during the training were the need to match the content of stories with the writer's objectives, target audience, and the format of the channel to which the story will be used. Participants were advised to make their lead paragraphs as interesting as possible to capture audience attention.

Practice sessions were on crafting story angles, writing headlines and lead paragraphs, and drafting press releases. STRIDE Consultant Nini Santos facilitated the discussions and story critiquing while Ms. Dumlao provided feedback on the participants' outputs.

Artificial Intelligence Roadmap

STRIDE, in collaboration with data scientists from the AIM Aboitiz School of Innovation, Technology, and Entrepreneurship (ASITE) and the DTI completed the conduct of focus group discussions (FGDs) in support of efforts to develop the Philippine AI roadmap.

Budget Unlocked!

The DTI committed Php 3 million for the drafting of the Philippine AI roadmap.

On February 5 and 19, STRIDE supported the AIM ASITE consultants in conducting FGDs in the National Capital Region to gather inputs from academic and industry stakeholders regarding the adoption of AI in manufacturing and agriculture sectors, and to gather recommendations for consideration in the roadmap. It worked with the consultants from AIM, Erika Legara and Chris Monterola, in planning, framing, and holding the AI-related FGDs.

STRIDE's technical assistance on this initiative also included identifying and onboarding lead consultants in the roadmap development, and preliminary mapping of institutions and universities providing educational programs for AI, as well as AI-related policies.

Support to DTI–CIG Quick Response Against COVID-19

Given the huge impact of COVID-19 on the country, especially at the onset of the implementation of the community quarantine, the DTI–CIG supported the rest of the Department as it participates in the whole-of-government approach to respond to the Philippines' urgent needs.

STRIDE assisted the Office of the Undersecretary for CIG in facilitating the aggregation of supply and demand data for PPE. It coordinated with DTI field offices with regard to the demand for face shields and other medical supplies required by hospitals, health centers, and similar facilities. Program staff also helped the CIG coordinate with the Department of Health and industry partners in the implementation of the DTI's Bayanihan PPE Project.

Task 3.2. Regional Inclusive Innovation Centers

In the 2020 GII Report, which included a feature on the Philippines, DOST Secretary Fortunato de la Peña cited the impact of the RIICs in promoting innovation in the regions. He described the RIICs as "venues for collaboration among government, education, and industry players to collectively pursue market-driven research."

Since 2018, STRIDE has been supporting the government in realizing the visions for each of the RIICs in the pilot regions of Bicol, Central Visayas, Northern Mindanao, and Southern Mindanao. Most of STRIDE's activities in pursuit of the RIIC goals are categorized under the Mapping-Linking-Alignment (MLA) framework which refers to (1) Mapping key innovation actors, initiatives, and efforts; (2) Linking of dynamic innovation players in the ecosystem through strategic activities; and (3) Alignment of key programs and services toward industry needs.

The establishment of the RIICs is the major recommendation of the Inclusive Filipinnovation and Entrepreneurship Roadmap.

Establishment of 3 New RIIC Sites Commenced

Cagayan Valley, Central Luzon, and Zamboanga in Western Mindanao are the next potential RIIC sites. Year 7 saw STRIDE working with partners for the preliminary steps involved in establishing RIICs in these regions, as regional officials and partners welcomed the initiative.

On December 6, 2019, STRIDE supported DTI and the DOST in holding the Regional Inclusive Innovation Workshop in Zamboanga where DTI Undersecretary Rafaelita Aldaba presented the Philippines' Inclusive Filipinnovation and Entrepreneurship Roadmap and RIIC initiative.

In response to the presentation, DTI Region 9 Director Sitti Amina Jain expressed Zamboanga's interest to be part of the RIIC initiative, as she spoke about the region's plan to chart its roadmap toward becoming one of the innovation hubs in the Philippines. Months after, the DTI Region 9 team reported that the RDC has endorsed the RIIC, including the proposed physical facility that will host all RIIC-related activities in the region.

The workshop in Zamboanga enabled STRIDE to encourage local stakeholders to identify specific actions in strengthening their innovation environments, while highlighting the

important role of innovation in regional growth. It served as a venue for STRIDE to explore specific MLA activities that may be implemented in the area once RIIC activities begin.

Regions 2 and 3

RIIC briefing with Region 2 partner agencies, including DOST, DTI, DA, and NEDA.

At the latter part of the year, STRIDE and its partners from DTI and DOST commenced discussions with key innovation actors and authorities in Regions 2 and 3 on the establishment of RIICs in their respective areas. This was initiated upon the suggestion of senior officials at DOST who identified promising research from these regions

Preliminary steps in establishing the Region 2 RIIC include a briefing on the RIIC initiative held on August 19, and a scoping activity with the regional officers of DTI, DOST, and NEDA; industry; and academia. All government agencies involved welcomed the RIIC as a mechanism for convergence. Participating agencies also shared their expectations and visions in relation to realizing the RIIC in Region 2. DOST-2 committed to work as the RIIC Regional Secretariat.

In Central Luzon, STRIDE met with officials of the regional offices of DOST, DTI, and CHED to socialize the possibility of establishing the RIIC. The agencies expressed interest in the prospect of undertaking the RIIC in their region. DOST Regional Director Julius Caesar Sicat committed to analyzing intersections among priority industries and to looking for a physical space for the RIIC within a university. He also brought up the possibility of securing investments through the GIA funding.

With the Zamboanga RDC resolution, STRIDE has met its Year 7 target. STRIDE aims to secure an additional RIIC RDC resolution in either Cagayan Valley, Cebu, or Central Luzon for Year 8. Procurement for the Innovation Advisory Service is ongoing.

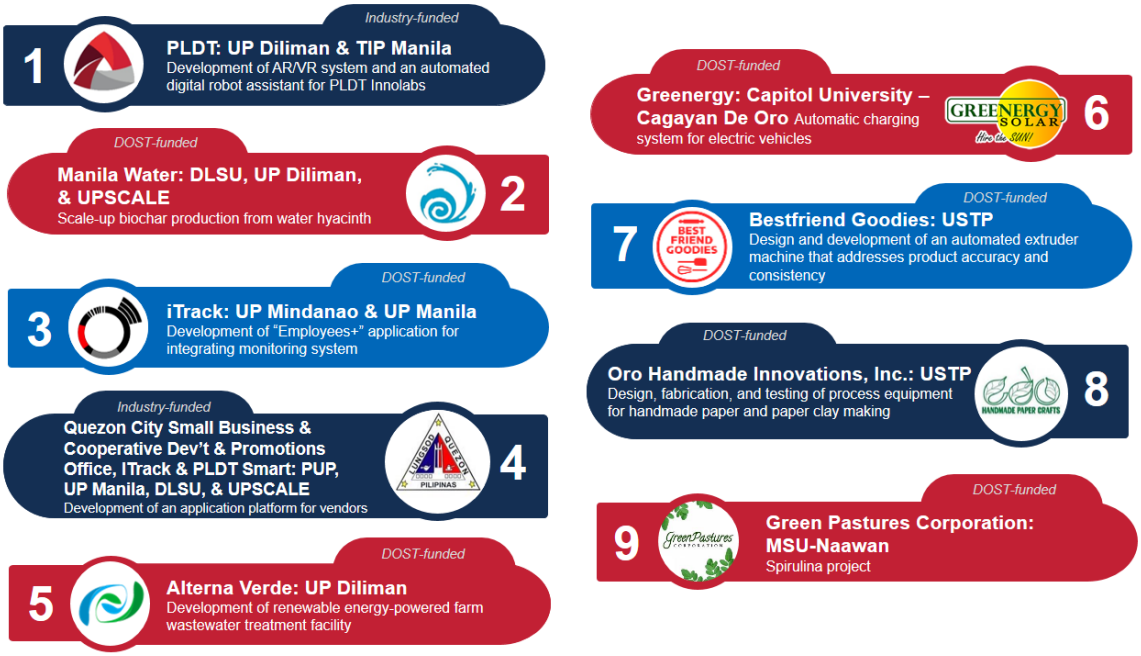
As part of RIIC institutionalization efforts, STRIDE promotes the RIICs to be part of the regional development agenda in pilot sites. RDC adoption in new RIICs however has been stalled due to the RDC's shift of priorities toward the pandemic response. STRIDE anticipates that the target adoption would still be carried out in the succeeding year once regional operations of partners adapt to the new normal.

9 Industry-Academe R&D Partnerships Realized Through RIIC Initiatives

Nine enterprises—including two of the country's largest, PLDT, Inc., and Manila Water—formalized their partnerships with Philippine universities to further develop and refine ideas that stemmed from the STRIDE R&D workshops into implementable projects (***Figure 11***). The companies come from various industries including food products, food supplements, home fixtures, e-vehicles, financial technologies, telecommunications, and water distribution. STRIDE had initially targeted ten industries to form such partnerships in Year 7. Partner universities come from Metro Manila, Misamis Oriental, Cagayan De Oro, and Davao.

The workshops form part of STRIDE's RIIC initiatives, which seek to identify and articulate industry challenges, explore solutions, and prioritize possible interventions. The workshops' end goal is to lay the groundwork for long-term strategic partnership between an enterprise and an HEI. From October 2019 to March 2020, three R&D workshops have been implemented in the RIIC sites, as well as in potential new sites. In these, 20 new MSMEs have been engaged and introduced to potential partnerships with their local universities and innovation facilities.

Figure 11. List of Industry-Academe Partnerships Resulting from R&D Workshops



Four of these partnerships (Bestfriend Goodies, Oro Handmade Innovations, Inc., Green Pastures Corporation, and LoCoHITechs) have already been awarded funding by DOST Region 10 through the local GIA program for a total of [REDACTED] Together with the work done with the Oro Chamber, STRIDE has achieved 5 out of the targeted 7 private sector processes with improvements and technologies for this year.

Strengthened Innovation Services among Government Partners through RIIC Activities

MOA signing ceremony among DTI, DOST, and FDA Region 5 | Photo: Region 5

In the past year, STRIDE delivered four various data sets of innovation ecosystem mapping data have been shared and co-developed with local government partners, primarily DTI and DOST Regional Offices, across the four pilot RIIC sites. The set includes basic information on government agencies, universities, MSMEs, R&D laboratories, S&T parks, accelerators, incubators, innovation hubs, private funders and financial institutions, co-working spaces, and other innovation-focused support organizations in a region. This is expected to strengthen partners' efforts in developing their localized innovation databases across the RIIC sites, such as the iSTRIKE website that Davao partners will launch on October 2020.

Continuous program alignment work with the Legazpi RIIC Core Group has led to a more streamlined process for product innovation. On August 3, 2020, DTI Region 5, DOST Region 5, and Food and Drug Administration (FDA) Region 5 entered into a Memorandum of Agreement (MOA) to formalize their partnership to support MSMEs in the Bicol Region. The collaboration intends to help the MSMEs in the food processing sector by providing assistance in securing required government food safety certifications, including FDA's License to Operate and Certificate of Product Registration. The endeavor is part of the region's plan to further enhance the collaboration among the region's local innovation ecosystem stakeholders. Seventy five MSMEs are expected to benefit from the collaboration.

In Davao, the alignment work has led to the development and launch of a market intelligence service that will help local businesses in identifying new markets and positioning their products. Led by DTI Region 11 and CHED Region 11 and with technical assistance from STRIDE, the service is designed as a series of workshops where participating MSMEs are assisted by local university counterparts in the formulation of a market assessment study that helps enterprises identify new product and market opportunities. From July to August 2020, STRIDE and partners conducted several Rapid Needs Assessment (RNA) interviews to identify six MSMEs, which include Nutricient Corporation, Malagos Cheese Farm, the Food Products Innovation Center, Healthy Sweets Corporation, Farmboy Food Products, and Davao Thermo Biotech Corporation, that will be part of the pioneering class for the workshop series. Together with the work in Cagayan de Oro, STRIDE was able to implement 10 firm-level RNA interviews out of the targeted 36 firm-level RNA interviews. Additional interviews had to be deferred to put more focus on operationalizing the Innovation for Business Recovery (IBR) program.

Davao RIIC virtual webinar on the topic "How to Make Insights Drive Success and Innovation in your Business."

Apart from these, STRIDE has also worked with partners in the regions to provide thought leadership amidst the COVID-19 pandemic. Following the June 2020 webinar with Cagayan de Oro partners, STRIDE has assisted DTI Region 11, DOST Region 11, and CHED Region 11 in producing a webinar focused on leveraging market insight in product development.

Republic Biscuit Corporation Assistant Vice President for Corporate Marketing Juan Paolo Gonzales served as the webinar's main speaker. Central to his presentation were key reasons why businesses fail and how market understanding can help address these challenges. Joining him were local business leaders from Malagos Farmhouse Cheese, Healthy Sweets Mindanao Corporation, Davao Food Safety Think Tank, and Davao City Chamber of Commerce and Industry, Inc., who shared their experiences and strategies in dealing with the obstacles brought by the pandemic. Around 200 participants composed of MSMEs, local government agencies, and university researchers attended the activity.

Some pending MLA activities in the RIICs have been rescheduled in favor of new priorities of regional partners during the COVID-19 pandemic. STRIDE had to work closely with its RIIC partners in order to strategically pivot approaches and design initiatives that can help stakeholders survive the crisis and thrive despite the challenges it presents. STRIDE developed and pitched the concept of an IBR Program, a localized consultancy service for MSMEs to rethink their operations and strategies through data-driven analysis. The IBR is a multi-step advisory process, comprising various stakeholder engagement and partnership brokering activities. Like the RNA interviews, the program will assist MSMEs in identifying potential collaborators (especially in innovation and technology upgrading) in their locality and options for resiliency and recovery. The IBR is envisioned to be co-implemented with local partners in government, industry chambers, and academe across RIIC sites. The concept has been adopted by the RIIC in Region 10 (Cagayan De Oro) through the OROBEST-BRIDGE Program. Partners in other RIICs sites, such as in Davao and Legazpi, are already in the early implementation and adoption of the process.

Leading the MOU signing for the OROBEST BRIDGE initiative are Oro Chamber of Commerce President Robertino Pizarro, Xavier University-Ateneo de Cagayan President Roberto Yap, DTI 10 Regional Director Linda Boniao, STRIDE COP Richard Abendan, DOST 10 Regional Director Alfonso Alamban, and Ateneo de Manila University President Jose Ramon Villarin.

In Year 7, STRIDE also helped to enable 5 from the targeted 6 government agencies which highlighted improvements in their own management practices and operational activities with STRIDE-related assistance. The agencies include the following: Fab Lab Mindanao, CHED Region 11, DTI Regions 5 and 11, and DOST Region 10. The targeted delivery of technical assessment reports for innovation programs and services this year was delayed with the pandemic as government partners mainly focused on pandemic responses. One report however is already being reviewed for public release (Davao), while one remains in development (Legazpi).

Support For Fab Labs

At the onset of the COVID-19 pandemic, STRIDE gathered inputs toward actionable next steps that can further improve the country's Fab Labs, including those outside of the RIIC sites. In the early months, STRIDE met with around 15 academic institutions, as well as with various

SPOTLIGHT!

RIIC in Focus!

OROBEST-BRIDGE Program [RIIC-Region 10]

The RIIC in Region 10, through OROBEST, has adopted STRIDE's IBR initiative and branded it as OROBEST BRIDGE or Business Recovery Innovation for Development and Growth of Enterprises. On July 22, BRIDGE was formally launched through an MOU signing among lead project implementers, namely the DTI-10, DOST-10, Oro Chamber of Commerce, Xavier University-Ateneo De Cagayan, Ateneo De Manila University, and STRIDE.

government agencies involved in Fab Lab work across the country to formulate and strengthen its technical assistance to Fab Labs.

Responding to feedback gathered through consultations and meetings, STRIDE has expanded its Fab Lab portfolio of technical assistance to include three buckets, namely: (1) Refinement of the Fab Lab Makerspace Management Academy, (2) Establishment of the Philippine Fab Lab Network, and (3) Development of the Philippine Fab Lab Network web portal.

STRIDE has since presented and discussed these strategies in various fora, one being in an episode of "Makers Without Borders" organized by Fab Lab Mindanao and American Spaces Philippines. With the theme "Reinventing the Future of Fab Labs through Stronger Industry Engagements," the episode included discussions about Fab Lab Mindanao milestones, best practices, and industry engagement as a strategic direction for sustainability. Together with MSU-IIT, STRIDE sought stronger support and synergy in strengthening Fab Labs across the Philippines through collaboration and cooperation.

The webinar underscored stronger industry engagements as key to reinventing the future of Fab Labs.

OROBEST and its partners have their hands full as they operationalize the BRIDGE project.

Beginning June 9, BRIDGE has defined the roles and responsibilities of the stakeholders involved in the project, including the DOST and DTI regional offices. It has made possible the linking and exploratory meetings between OROBEST and various universities. In the last quarter, BRIDGE started to hold RNAs with enterprises in the region to identify challenges amid COVID-19 and explore interventions. To date, BRIDGE has rolled out RNAs for four MSMEs, namely: Oro Handmade, Bestfriend Goodies, Limonero, and Skills Mastery Institute.

Outcome

BRIDGE also provided an opportunity for Oro Handmade to meet Pilipinas Shell Foundation and pitch for funding for the automation of its paper mill production. Now, Oro Handmade is one of the three community enterprises participating in Shell's LiveWire program, the energy company's global enterprise development program, which provides support to start-ups and businesses in executing their innovative ideas.

Establishing the Philippine Fab Lab Network

As a result of STRIDE's intensified technical assistance to the Fab Labs in Year 7, the Philippine Fab Lab Network will soon be realized. Eighteen academic institutions, acting as founding members, have expressed their support to establish the organization.

The proposed network will serve as a unifying platform that will enable regular exchange of views and collaboration among Fab Labs nationwide, including their partners. It is expected to enable stronger dialogue among members and consolidate their representation to external stakeholders. It will also allow more efficient trainings and use of shared resources.

In support of this concept, STRIDE provided technical assistance in executing the necessary steps toward the establishment of the network. It has been supporting the regular convening of a TWG that is responsible for steering discussions and leading decision-making pertinent to the endeavor. The TWG members are Batangas State University, Bicol State College of Applied Science and Technology (BISCAST), Bohol Island State University, and Philippine Science High School–Ilocos Regional Campus.

As of the end of Year 7, the TWG has successfully convened to discuss the operationalization and deliverables toward the formal establishment of the Philippine Fab Lab network. Likewise, the founding members have concluded three sets of strategic

planning sessions facilitated by STRIDE consultants that created the network's vision statement, long-term goals, and intermediate outcomes and outlined upcoming projects and activities.

Photos show the strategic planning sessions with the founding members of Fab Lab Philippines. Central to the discussions was identification and development of key components of the proposed Philippine Fab Lab Network.

Fab Lab Network Web Portal

In support of the Philippine Fab Lab Network initiatives, STRIDE committed to help develop a web portal or database that can become the one-stop platform for pursuing Fab Labs' partnerships and addressing needs. A Request for Proposal (RFP) for the database has already been drafted. In parallel, STRIDE is securing the Fab Lab TWG's official and financial commitment with regard to the database's maintenance and sustainability.

Fab Lab Makerspace Management Academy

Due to the changes brought about by the pandemic, STRIDE had to revise the content structure and approaches for the proposed Fab Lab Makerspace Management Academy (MMA), a capacity development program designed to improve competencies in design and prototyping of Fab Lab personnel. The end goal of the program is to further develop Fab Lab facilities as capable partners of local industries.

STRIDE and the collaborators for the Fab Lab MMA agreed to reduce the number of class participants, shift from in-person activities to online and blended learning, adopt health protocols during gatherings, and adjust the program's trial run and launch to 2021. The MMA collaborators include the Design Center of the Philippines, DOST Additive Manufacturing Center, American Spaces Philippines, and Fab Lab personnel from UP-Diliman, USTP, and Cebu Technological University.

Task 3.3. Technical Assistance to DOST

Mapping and Design Updates for Business Processes in the DOST Grants Management System

The DOST Business Process analysis study and design update for the DOST GIA Program and CRADLE was approved by USAID on September 30, 2020. Through the partnership with STRIDE, the DOST aims to innovate its business processes.

One of the meetings in support of DOST's Business Process Design Study.

Human Capital Asia Consulting, Inc., a Philippine-based resources and organizational effectiveness training and consulting firm, will lead the implementation of Phase 1 of the technical assistance starting October 2020 through January 2021. The study will map the DOST GIA's business process, including key external processes that impact delivery of services and stakeholder engagement and provide recommendations for improvements.

The implementation of Phase 2 of the technical assistance is conditional to study findings in Phase 1. Phase 2 will cover capacity-building and policy updating activities. Ultimately, this activity should result in improving efficiencies in the awarding and M&E of grant projects, while also increasing the number of high-quality applications.

The GIA program is the DOST's primary grant mechanism. The CRADLE program is DOST's leading grants initiative for industry- academe linkages. CRADLE is under the larger GIA grants program, S4CP.

STRIDE joins the meeting between the S4CP team and industry representatives from Plentex and BioAssets about the BIST Program.

BIST Grant Program

Part of STRIDE's support to DOST's efforts to design and implement grants programs that would result in more impactful outcomes is a review of the BIST program based on industry perception.

BIST which stands for Business Innovation through S&T, seeks to encourage and assist Filipino-owned companies to innovate and develop competitiveness through the acquisition of new and relevant technologies for research. Despite the benefits that the grant offers, the application and award rates for BIST remain low.

STRIDE is gathering industry feedback about BIST and analyzing possible ways forward to attract more enterprises. In the course of its data gathering, STRIDE was able to generate interest on the program from two companies, Plentex Philippines, Inc., and BioAssets

Corporation. Following a series of linkaging activities with DOST, BioAssets, which offers diagnostic services for animal health, submitted a proposal for the BIST grant which is currently undergoing final evaluations.

FEC Program

In Year 7, STRIDE in partnership with De La Salle University–Manila resubmitted the proposal to DOST-PCIEERD for joint funding and delivery of FEC for the following year. The program was initially considered for funding in Year 7, however DOST budgetary concerns with the pandemic pushed the potential funding to 2021. Discussions are currently ongoing to modify the design of FEC to be more integrated into future DOST training offerings. Should DOST funding and approval happen in Q1 of Year 8, FEC is slated to begin by February 2021.

Training on ICANVAS Tool

STRIDE, in discussion with DOST, has postponed the training to Year 8 due to the disruptions of the pandemic. ICANVAS is a tool that can assist technology transfer officers in evaluating and rating the maturity of various technologies for commercialization.

S&T Industry Engagement

STRIDE organized an industry-academe roundtable on November 12, 2019, with Makati Business Club (MBC) which emphasized the business sector's important role in research and innovation. Additional activities planned with MBC and other industry associations like the Semiconductor and Electronics Industries in the Philippines, Inc. were cancelled or postponed indefinitely at the onset of the pandemic. STRIDE is engaging partner industries in identifying future events and activities that foster industry-academe partnerships that are more relevant within the context of industry priorities within the pandemic.

Rolling Out A Campaign to Communicate R&D Benefits and Outcomes

The DOST has built up efforts to tell stories about R&D impact as it implements the “R&D: Making Change Happen” (MCH) communication campaign being supported by STRIDE.

Following the DOST R&D leaders’ approval of the MCH communication campaign, the Department’s research councils and RDIs adopted the campaign’s content strategy and visual branding. Since April 1, 2020, the agencies have been implementing communication tactics in alignment with the campaign messages.

Bannered by the theme “R&D: Making Change Happen,” the campaign highlights the “3Ds” that individuals and communities gain through research, namely decisions that are informed, development that leads to growth and progress, and difference and meaningful transformations in people’s lives.

A product of brainstorming sessions among members of the R&D Communication Committee (also known as R&D Comms Team), which STRIDE assists, the MCH campaign is thematic in nature and was proposed to:

- Serve as a rallying point for research councils and RDIs when they roll out their respective communication activities;
- Effectively tie or connect together DOST's R&D-related public relations and communication initiatives, enabling target audiences to associate individual agency initiatives to the bigger umbrella of DOST's R&D programs; and
- Create a more significant impact on target audiences' perceptions, attitudes, and behavior.

The R&D agencies under DOST have been releasing communication materials that highlight the campaign theme, including an appreciation video for research frontliners during the COVID-19 pandemic, social media posts, and collaterals used for webinars, virtual press conferences, etc.

Originally, the campaign planned to execute three major events and initiatives to generate larger opportunities for the crafting and sharing of R&D-related stories. Aside from targeting digital platforms, it also outlined several tactics requiring in-person and on-the-ground approaches.

A major pivot on the implementation plan was made given the changes in the communication landscape due to COVID-19. The campaign tactics had to shift from a 360 degree, mixed-platform approach into a digital and virtual initiative in order to adapt to the new set-up and realities.

STRIDE's support in the MCH campaign includes the facilitation of the R&D Communication Committee's brainstorming sessions, consolidation of concepts and inputs into a 3-year communication campaign plan, and development of the campaign's visual brand.

STRIDE has also recruited and fielded a multimedia artist at the DOST Office of the Undersecretary for R&D to support creative requirements for the MCH campaign and other R&D communication materials.

Communication on the DOST's COVID-19 Response

At the onset of the pandemic in the Philippines, DOST officials observed how each R&D agency was working on its own in relation to communicating the Department's response to COVID-19. The body agreed on the need to create a unified communication effort to ensure that news and information related to DOST's R&D initiatives against the impact of the disease will reach the target audience.

STRIDE Communication Consultant Nini Santos developed a media outreach strategic plan to help DOST gain momentum and traction for its publicity efforts specific to its COVID-19 response. Covering a 2-month period, the plan aimed to help DOST deliver the message that R&D plays a significant role in addressing a pandemic and its impacts, and generate positive media coverage and public appreciation of DOST R&D initiatives against COVID-19.

The proposed media outreach plan, which forms part of the bigger and overarching MCH campaign, was approved by DOST Undersecretary Rowena Guevara on April 4, with inputs from the DOST council executive directors and R&D Comms Team. On April 13, the revised and updated plan was cascaded to the DOST R&D Comms Team for rollout. The team positively responded to the proposed strategies and tactics, and instituted a basic protocol for COVID-19–related press releases.

Mid-term review on the COVID-19 related communication

Mid-way to the rollout of the media outreach plan, STRIDE did a review of the efforts' results and assessed how the initiatives contributed to the media coverage of DOST's response to COVID-19.

The review shows that for the period April 23 to May 6, 2020, there were a total of 335 media articles that talked about DOST programs and/or science, research, and technology initiatives in general.

> ***A great majority of these articles (82% or a total of 274 stories) were R&D-related. More than half of these R&D-related news stories were published as a result of DOST's media outreach efforts, including those of the R&D Comms Team.***

Topics that got the most press coverage during the period were related to efforts on finding a cure for COVID-19, including DOST's research on virgin coconut oil as a possible supplement against coronavirus. Other topics covered were government rewards for scientists, DOST technologies such as the rapidpass, swab booths, ventilators, bamboo face shields, and face masks.

For every five DOST media pick-ups, at least two were based on the press releases seeded by the members of the R&D Comms Team. The draft report was socialized by STRIDE with the R&D Comms Team on June 15 and was presented to Undersecretary Guevara.

Communication Support for NRDC

Two legislations call for an annual public reporting of R&D activities that were funded by the Philippine government. The DOST sees the holding of the NRDC not only as compliance but also as an opportunity to tell the stories of how R&D benefits individuals, industries, and communities, and why investing in R&D is critical it for the country's sustainable and inclusive development.

The DOST and STRIDE are leveraging the staging of this year's NRDC as a platform to better deliver the key messages of the MCH campaign. NRDC adopts the campaign's tagline "Making Change Happen" as a conference theme to help frame the event discussions toward positive outcomes of R&D projects.

Sample creative materials produced with STRIDE assistance for the NRDC 2020

To support the DOST in its now larger online presence, STRIDE assembled a creative team to work with the NRDC Committee and the R&D Communication Committee in producing the conference's communication materials. The team has developed the NRDC key visuals and has been producing the social media art cards for event promotion.

The STRIDE creative team also works virtually with DOST videographers during on-site filming with scientists and researchers whose research will be featured in the NRDC.


Some scenes at the video shoot for the pre-recorded presentations of scientists who will talk about their R&D projects at the NRDC.

The team provides creative direction to ensure video output consistency and develops raw footage into its final five-minute version.

This year's NRDC will feature a total of 34 innovative research and technologies clustered under disaster resilience; health; emerging industries; agriculture, fisheries, and aquatic resources; and COVID-19 response. The NRDC will be held virtually for the first time in November 2020.

MCH Campaign Video Series

In February 2020, the Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (PCAARRD) has successfully secured approval for a Php2 million funding for an R&D-related video series. STRIDE worked with PCAARRD in developing the proposal for the project. The videos will feature the benefits of R&D projects in different sectors across the country. These were originally conceptualized as key communication materials for the launch of the R&D: Making Change Happen campaign.

Due to COVID-19 and its impact to government's budgetary priorities, the video production was halted. With the easing of the quarantine restrictions, however, the DOST R&D Communication Committee has resumed the planning for the implementation of this video project. While the videos will no longer be produced as launch materials, their content will remain aligned with the MCH campaign messages.

STRIDE continues to work with the R&D Communication Committee, particularly PCAARRD, PCIEERD, and the Office of the Undersecretary for R&D (OUSECRD) in revising the content direction of the video series and in aligning the production of other STRIDE-supported video collaterals. With preparations for securing the Php2 million DOST budget now in motion, the R&D Comms Teams is also planning for Phase 2 implementation of the MCH campaign.

Communication and R&D Monitoring and Evaluation (M&E)

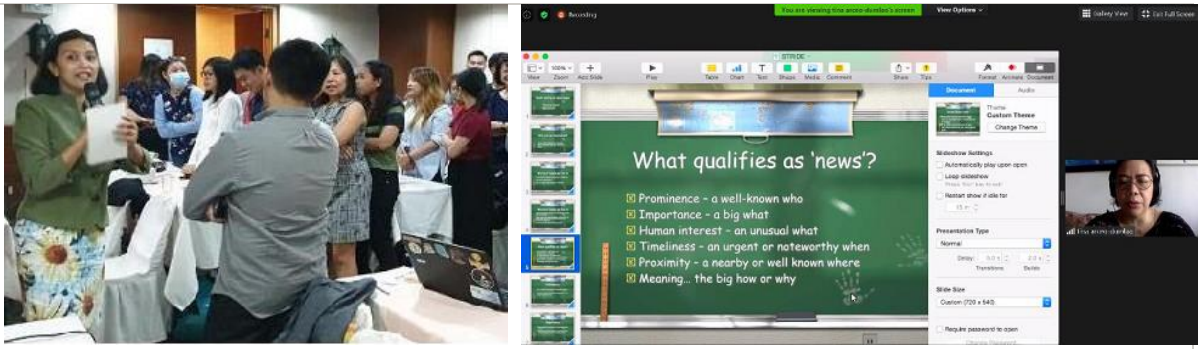
STRIDE provided inputs to the development of the DOST manual for the operationalization of R&D M&E protocols. The inputs focused on the role of communication in supporting research M&E.

The document that was submitted by STRIDE provided recommendations on the following areas: process alignment between communication teams and the M&E team, role and task description of the personnel involved, and the types of communication that may be initiated to support each component of the R&D project/process (see ***Figure 12***). The inputs were adopted by the TWG and have been incorporated in the M&E manual.

Figure 12. Role of Communication per R&D Process Component

	1 Stakeholder Engagement	2 Call for Proposals	3 Proposal Evaluation	4 Project Implementation and Monitoring	5 Project Outcome and Impact Evaluation
Communication objectives	Inform and generate interest among HEIs and industries about DOST's R&D initiatives	Increase rate of inquiry and proposal submission Foster understanding on the desired outcome of the R&D	Ignite pride among those whose proposals have been accepted by generating awareness about it among target audience	Increase awareness on the successes of DOST's R&D projects Improve engagement and collaboration between DOST and project proponents	Foster appreciation on DOST's R&D initiatives Secure buy-in from government and other stakeholders for R&D initiatives
Content focus	Information on institutions engaged; role of workshops in R&D advocacy	About the call, plus info on how results of the project seeks to address specific industry/sectoral problem	Announcement on accepted proposals and the project objectives	Stories on the R&D projects' 6Ps + 2Is Project guidelines and results	R&D outcomes that benefit people and communities Role of R&D in nation building and development
Possible Platform/s	Social media communication	Own media, including socmed, and placements (as needed)	Social media communication	Own and quad-media Internal platforms	360 degree communication targeting the public and the government

Enhancing the Communication Competencies of DOST R&D Agencies



STRIDE Communication Consultant Nini Santos facilitates an activity at the 3-day PR 101 for R&D Communication training for DOST. Right photo shows Philippine Daily Inquirer *Business Features Editor Tina Dumlao, who delivers her presentation during one of the News Writing learning sessions organized by STRIDE for the R&D Communication Committee and STII.*

Key to DOST's efforts in crafting and sharing R&D stories is the level of communication competencies and capability of employees assigned to communicate about R&D. For this reason, STRIDE provided technical assistance to further enhance the communication knowledge and skills of staff, especially the members of the R&D Communication Committee.

From November 5 to 7, 2019, STRIDE led a capability-building initiative to strengthen employees' strategic communication and public relations skills. It conducted a 3-day training titled "PR 101 for R&D Communication," which covered topics on strategic communications planning, messaging, media relations, and social media communication. A session was also conducted to help trainees better monitor and evaluate the effectiveness of their communication activities.

Thirty representatives from DOST's research councils, RDIs, and the OUSECRD attended the training. The majority of them form part of the STRIDE-supported R&D Communication Committee.

Months after, STRIDE delivered a course on News Writing for three batches of participants. The first and second batches were composed of junior and senior writers from the DOST's R&D agencies. The third batch was with writers assigned under the DOST Science and Technology Information Institute (STII). More than 40 writers benefitted from the learning sessions.

Philippine Daily Inquirer Business Features Editor Tina Arceo-Dumlao again served as the resource person for the training, while STRIDE Communication Consultant Nini Santos facilitated the discussions and practice sessions.

To ensure that the trainees will be able to immediately apply their learning from the sessions, the training included segments in which each participant had to develop a press release on any R&D-related topic. During the critiquing session, Ms. Dumlao provided expert advice on how participants could improve their material. They also had an active discussion on how to improve media work relationships, to which Ms. Dumlao provided key insights and advice.

Task 3.4. Technical Assistance to CHED Organizational Assessment

Assessing the CHED Organizational Structure

The organizational assessment that STRIDE is providing technical assistance to CHED aims to review the mandate, structure, and functions of the CHED as embodied in the law that created it (RA No. 7722); identify and review the developments in the higher education sector that have a potential impact on the organization and functions of CHED; analyze the nature and extent of the gaps that need to be addressed; and recommend measures that will address the identified gaps.

In April 2020, STRIDE modified the scope of work in response to a formal request from Chair Prospero De Vera III. This further expanded the study to include sustainable and rational bases for expanding operations at the regional level; a review of models of higher education administration as possible guides in the restructuring of CHED; and analyses and insights in support of CHED's position in the Congressional deliberations on the proposed amendments to RA No. 7722, or the Higher Education Act of 1994.

Technical Working Group. A TWG composed of the heads of CHED central offices and headed by the OIC-Executive Director was formed in November 2019. The members of the TWG and the Secretariat are responsible for providing information and insights about their respective offices, programs, and functions; for arranging interviews with key stakeholders; and for making available relevant documents for the study. Several meetings to discuss the conduct as well as substantive aspects of the study were held between the TWG and the study team.

The principal methodologies employed in the study are a review of relevant literature on higher education, interviews with current and past officials of CHED and of HEIs, and consultations with CHED staff and officials.

Review of literature. From 1999 to 2012, at least seven studies on CHED as an organization were undertaken. These previous studies, although undertaken separately at different times and by different individuals or groups, came up with some common findings and recommendations. The implementation (if any) of certain recommendations are being tracked by the study.

Interviews. To gather information and generate insights on CHED's structure, functions, and performance, interviews were conducted with two former CHED chairpersons, one former commissioner, one former deputy executive director, one former director, two university presidents, one former department secretary, and representatives of eight CHED central offices, two CHED regional offices, and one attached office.

Consultative roundtable. A consultative roundtable discussion called "Enhancing and Right-Sizing the Commission on Higher Education" was held on February 28. The activity was attended by 21 participants from the regional offices and 83 participants from the central office. In attendance were CHED Chairperson J. Prospero de Vera III and Executive Director Atty. Cinderella Filipina Benitez-Jaro. The session also provided the participants with an opportunity to discuss proposed amendments to RA No. 7722

Amendments to the CHED law. In May, the House Committee on Higher and Technical Education (CHTE) began discussions on the substitute bill to HBs 6449, 1855, and 1936, "Strengthening the Commission on Higher Education (CHED)," amending for the purpose RA 7722. STRIDE Senior Consultant Jose Tabbada provided comments on the substitute bill through the CHED Office of the Executive Director and monitored committee meetings held online. Both CHED Chairperson De Vera and Executive Director Benitez-Jaro were resource persons during the CHTE Meeting on House Measures held on May 29.

The research team is currently reviewing relevant country experiences on the organizational structure, powers and functions, and administration of higher education. The team also hopes to generate insights on Commission's operational capacities in the context of the pandemic and changes undertaken to maintain a level of efficiency. Because of the expanded scope and delays conducting interviews and meetings during the pandemic, preliminary results from the study will be presented to CHED during Q1 of Year 8 instead of the original target of Q4 of this year.

Left photo shows CHED Chairperson J. Prospero De Vera III in a discussion with STRIDE Senior Consultant Jose Tabbada and CHED officials during a consultative roundtable on enhancing and right-sizing CHED. Right photo shows CHED Executive Director Atty. Cinderella Filipina Benitez-Jaro in a conversation with Director George Colorado of CHED Regional Office VIII during the consultative roundtable. | Photos: CHED

FINANCIAL SUMMARY

[REDACTED]

IR 1: IMPROVED HIGHER EDUCATION CAPACITY FOR INNOVATION

- Budgeted amount of IR 1 per Y7 AIP: [REDACTED]
- Actual expenditure: [REDACTED]

  Most IR 1 activities for Career Centers, KTTO, and PSM were implemented according to plan. The movement to FY2021 of the final KTTO training class and a delay in the sub-award process of the START Center are the primary sources of underspend. The final selection process of the START Center host is ongoing.

IR 2: IMPROVED REGULATORY ENVIRONMENT FOR INNOVATION

- Budgeted amount of IR 2 per Year 7 AIP: [REDACTED]
- Actual expenditure:[REDACTED]

  The underspending in IR 2 was primarily due to continued changes in the operating and political environment of the R&D procurement activity, and the HEI policy and codes activity awaiting completion of the IDT results from PASUC (which have been completed in October). These factors caused some associated expenses to be moved to Year 8.

IR 3: IMPROVED GOVERNMENT CAPACITY FOR INNOVATION

- Budgeted amount for IR 3 per Year 7 AIP: [REDACTED]
- Actual expenditure: [REDACTED]

  The underspending in IR 3 was primarily due to a delay in the selection and negotiations of the sub-award for the DOST business process mapping. The sub-award was already approved in September and was awarded in October 2020. Minor delays in engaging new partners in two new RIIC sites have also contributed to the underspend.

SUCCESS STORIES

Four success stories are included on subsequent pages.

SUCCESS STORY

USAID-Supported Industry-Academe Research Gets Regulatory Approval for the Commercialization of Honey-Based Wound Dressings

Maridan facility where products are being manufactured. Photo: Maridan Industries, Inc.

Maridan facility where products are being manufactured. Photo: Maridan Industries, Inc

The critical link between universities and industries in promoting innovation and commercializing research is a key component in a nation's drive for development and economic growth.

"Collaboration between academe and industry is essential in maximizing innovation. Industries serve as a medium to identify new market opportunities, while academe acts as a pool for knowledge of basic sciences. If these two sectors start to work together, it could organize research that would have a valuable impact on society," said Maridan Industries, Inc., Vice President for Production Jan Vincent Sollesta.

Maridan Industries, a premier health product manufacturer in Western Visayas, specializes in pharmaceuticals, cosmetics, and medical devices, which have been widely distributed in various channels locally for over two decades now. After almost four years of collaboration with a partner university, Maridan is set to jumpstart the distribution of a honey-based wound dressing to drugstores on not only a local but a national scale. "This is a spin-off product from our collaboration with the University of San Agustin," shared Sollesta.

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Honelle wound gel product. Photo: Maridan Industries, Inc.

Maridan received approval from the Philippine Food and Drug Administration (FDA) on April 20, 2020, for its product, Honelle Wound Gel. The gel allows moist wound healing that is conducive to skin regeneration. The product has undergone tests both in local and international laboratories and is proven to be safe and reliable as a wound dressing. An FDA certification verifies that the product conforms to standards and is certified as safe for use by consumers. Securing such a regulatory approval is an important part in research and commercialization, which much academic-based research may not easily hurdle.

It was in 2016–-2017 that Maridan was given an opportunity to do collaborative research for the first time with a partner university, the University of San Agustin (USA). This was made possible by the United States Agency for International Development (USAID) through the Science, Technology, Research and Innovation for Development (STRIDE) Program. With STRIDE's Collaborative Applied Research with Industry (CARWIN) grant, Maridan and USA worked together to study the antibacterial potential of Philippine honey along with its bioactive components.

"The university conducted chemical and antimicrobial profiling of honey samples that were collected from different apiaries in the Philippines. Meanwhile, our R&D department also did sampling and additional profiling of different honey variants available locally," Sollesta said. "Success was an understatement, as the result gave way to the discovery of additional data that could be very helpful especially in promoting and using the benefits of honey from the Philippines," he added.

Maridan utilized valuable findings that would later on lead to the development of the honey wound gel's formulation. "We chose the most viable honey that we can use as raw material based on its chemical and therapeutic properties and scalability," Sollesta explained.

The Maridan official expressed gratitude to USAID through the STRIDE program for creating an avenue where industry and academe can do meaningful R&D together. “Thank you for your organization’s support in promoting innovation and collaboration between industries and academe,” he said. “I think the linkage of an industry with a university and vice versa is just a key in unlocking a great amount of opportunity,” Sollesta quipped.

Working with USA has led the company to make collaborations a top priority for its R&D department. “An industry cannot compete and innovate well by being alone. It must strengthen its R&D activities, and collaboration is a great part of it,” Sollesta said.

This has also opened up more doors and further built the confidence of Maridan in partnering with other academic institutions in Iloilo. Maridan has engaged with Iloilo Science and Technology University, also a USAID grantee, in studying a process involving hyaluronic acid technology; with the University of the Philippines Visayas for a grant project testing microbial pathogens in pharmaceutical products, funded by the Philippine Department of Science and Technology; and with the Central Philippine University on product packaging. Such partnerships are proof that companies can indeed have a working partnership with academia and both can stand to benefit from long-term cooperation. By leveraging each other’s resources, the partnership can bring about innovation that gives a ripple effect to all sectors of the society.

“I think if we could maximize this linkage, our industries would become more competitive locally and abroad. Our products would become more valuable and superior in the market since they are backed up by science and research,” Sollesta stated.

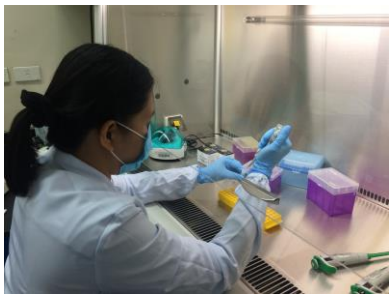
Since 2013, USAID, through STRIDE, has awarded a total of 68 research grants to Philippine universities to support research undertaken jointly with either a U.S. university or a Philippine company. Forty-four of these grants

or almost 65% have links with industry. By encouraging industry-academe linkages in research, USAID has created an enabling environment for such partnerships to build on each other's ideas and synergize innovation efforts—all contributing to the Philippines' drive for competitiveness and accelerated inclusive growth.

"I believe in the long run, the goal is inclusivity. Better products would equate to better businesses and further better opportunity and quality of life for all," Sollesta affirmed.

SUCCESS STORY

Paying It Forward: USAID Innovation Scholars Contributing to Country's Pandemic Research and Response



Scholar Melanie Salinas during the preparation of reagents to be used in the RT-PCR test. Photo: Melanie Salinas

Members of the NIH-UPM COVID-19 Taskforce, which scholar Melanie Salinas is a part of. Photo: Melanie Salinas

Seven years ago, the United States Agency for International Development (USAID) launched the Science, Technology, Research, and Innovation for Development (STRIDE) Program with an overarching goal of strengthening the Philippines' capacity for innovation-led inclusive growth. A big step toward this goal is bolstering the country's human capacity in science, technology, and innovation (STI) through the STRIDE scholarship program. Filipino scientists and engineers were given the opportunity to study or conduct graduate-level research in US universities. Scholarships were given to talented individuals who were able to demonstrate potential as future leaders and decision-makers in STI fields that are essential to the country's economic growth.

The scholarship program has now been completed, with a total of 57 scholarships awarded. With valuable skills and experience from their time in the United States, many of the USAID-supported scholars are now engaged in local research projects and helping communities in various technical fields. Two of these scholars in particular are contributing to Philippine efforts to respond to and mitigate the impact of the coronavirus disease 2019 (COVID-19) pandemic.

Working for more accessible COVID-19 testing

When the COVID-19 pandemic hit the Philippines in March 2020, science research specialist Melanie Salinas did not imagine she would be at the forefront in helping stem the effects of the coronavirus.

Melanie completed her Professional Science Master's (PSM) degree in Bioinformatics at the University of Delaware as a USAID scholar. "Earning this degree opened up opportunities for me to work in research projects at the Philippine Genome Center and the Philippine National Institutes of Health [NIH]," Melanie shared. She is currently working at the NIH and pursuing her interest in drug research. When the outbreak occurred, the NIH formed a COVID-19 Task Force, and she was suddenly involved in the preparation of the NIH laboratory to become a testing center.

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Andres Mayol in a research facility at DLSU
Photo: Andres Mayol

"We were all working on different projects at the NIH when in February, the possibility of using the laboratory and facilities as one of the testing centers for the coronavirus came up. We had to assist the Research Institute of Tropical Medicine, which was the only laboratory in the country capable of testing samples at that time, as they needed help from other laboratories," Melanie said. She participated in the formulation of standard operating procedures specific for COVID-19 laboratory testing and in the training of medical technologists. She was also part of the team tasked to validate the country's first locally-developed COVID-19 PCR (polymerase chain reaction) testing kit that provides more affordable access to accurate COVID-19 testing for Filipinos.

Melanie is also collaborating with members of the task force to produce the scientific paper "Analysis of SARS-CoV2 Genome Sequences from the Philippines: Genetic Surveillance and Transmission Dynamics," which analyzes community-acquired viral transmission in the country. The unpublished manuscript is already in the health science e-print website medRxiv.

Melanie found the experience of working in the task force challenging, particularly during the first months of the operation. "It was very stressful at first. Many of us, including our families were scared," she said. The task force activities also posed great challenges in communication and teamwork, with various sub-teams needing to collaborate effectively.

Melanie greatly attributes her success in managing the challenges of her experience in the task force to the unique training of the PSM scholarship, which combined professional skills like leadership and management with scientific training.

"I can say that the edge of the PSM scholarship is the added soft skills, which are not easy to teach to people working in the scientific field," she said. Having learned about ethical principles, intellectual property, managing creativity, and innovation, including leadership and communications, Melanie relied on these skills during her involvement with the COVID-19 Task Force. "Once in a while, I had to step up for the PCR team and lead the communication with the extraction team and the inspection team. I was on good terms with both teams, so communication between the two teams was facilitated," she said. "I am very grateful for the PSM 'plus courses' that I took in UD as part of the PSM Bioinformatics program. It provided me with the formal training on the necessary soft skills that not every researcher here in the country was fortunate enough to receive," Melanie said.

Scientific research to inform COVID-19 mitigation policies

De La Salle University researcher Andres Philip Mayol was working on his doctorate thesis in mechanical engineering when his mentor proposed a research project on the impact of COVID-19 mitigation strategies. He immediately jumped at the opportunity.

Andres soon worked in a combined team of mechanical and industrial engineers to eventually publish the paper "Policy Development for Pandemic Response Using System Dynamics: A Case Study on COVID-19." The study assessed the effectiveness of strategies in mitigating the effects of outbreak on the health sector and economy. It has been published in the journal *Process Integration and Optimization for Sustainability,* July 2020, and included in the National Center for Biotechnology Information, a part of the United States National Library of Medicine.

"Our findings and our research were also to implement social distancing. It was the start of the lockdown and during April, we did not know when to release it. One of our recommendations was to gradually lift lockdowns which happened [eventually], because we were trying to look at health capacity and our economy. The economy did plunge, but, if we had opened up the economy, we might have crushed the health care sector," he said.

Working on the research paper demanded quick results and multi-disciplinary research skills. Andres shared that his experience from USAID STRIDE's Advanced Research Scholarship at the University of Arizona, where his field of study focused on bioenergy and computational fluid dynamics, along with his current doctoral studies, allowed him to conduct research on the complex issues concerning the COVID-19 response.

"The group was really fast—; we needed to produce results immediately. But I was trained by my PhD supervisor and also, when I was in the US, I was able to talk to people from the agriculture side, the biology side. I was trained on how to understand these topics. At first it was difficult, there was bit of adjustment, but with my experience in my master's and my current PhD experience, it was easy for me to adapt to multi-disciplinary research," he said.

Realizing the impact of science and research in their homeland

With their projects now concluded, both scholars are proud to have contributed to COVID-19 response efforts in the Philippines.

"I think the major takeaway or thought from the experience is working for a purpose. You know you are doing this to help your fellow Filipinos. Even if you are just in the lab doing PCR tests, you know that your work is contributing a lot to save lives and help families," Melanie said.

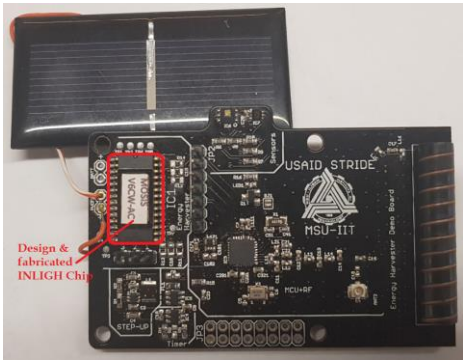
"While the data changes every day, I still hope that the authorities will be able to use our research," Andres said. "What we did here was to try to help in whatever way we can."

Equipped with the skills and learning experiences they gathered from their scholarship stint in the United States, Melanie and Andres are just two of the many scholars who are now back in the Philippines—still pursuing research in STI-based fields and heeding the call to help the country in times of crises. The two scholars returned to their homeland with the ability to strengthen their

respective institutions, took with them the valuable lessons and experiences from US universities, and used their expertise to contribute to the country's drive not only for innovation-led growth, but also in the country's response to rapidly evolving challenges such as the COVID-19 pandemic.

SUCCESS STORY

Mindanao University Leads the Way in Developing Local Microelectronics Industry



The designed and fabricated indoor light energy harvesting chip mounted in a wireless sensor network application board. Photo: Jefferson Hora

Engr. Hora (left) supervising a researcher on initial chip testing. Photo: Jefferson Hora

In the southern part of the Philippines, one university continues to transform itself into one of Mindanao's hubs for knowledge and technology transfer while making strides in research, extension, and innovation work.

Over the years, Mindanao State University–Iligan Institute of Technology (MSU-IIT), in Iligan City, has built and established innovation-driven facilities that contribute to a thriving innovation ecosystem, placing the university at the forefront of research, innovation, and development in Mindanao. Among these are the Fabrication Laboratory (Fab Lab) Mindanao, Technology Business Incubator (TBI), Premier Research Institute for Science and Mathematics (PRISM), Technology Application and Promotion Unit (TAPU), and Knowledge and Technology Transfer Office (KTTO). To further cement its position in the innovation sphere, the university is also embarking on numerous research projects encompassing high-growth sectors, including the microelectronics industry.

Providing a niche for microelectronics integrated circuit design

MSU-IIT in collaboration with industry partners Xinyx Design Consultancy and Services, Inc., and Analog Devices–General Trias conducted research in 2015 to design and develop an energy harvesting integrated circuit (IC) chip that generates energy from an ambient indoor light to a rechargeable single button cell battery. With the stored energy, this technology will allow wireless sensor networks (WSNs) to operate, even without a conventional power source.

These WSNs are being used to monitor and record the physical conditions of the environment and organize the collected data at a central location. They have numerous uses in management systems involving health, security, industry, and in the Internet of Things (IoT). When applied in larger volumes, they are cost-effective and efficient, as they produce power supply through an energy harvesting system.

The research project was made possible through a [REDACTED] from the US

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Some of MSU-IIT's Microlab alumni who are now employed at Xinyx Semiconductor either as IC designers and/or IC layout engineers. Photo: Jefferson Hora

Agency for International Development (USAID) through its Science, Technology, Research, and Innovation for Development (STRIDE) Program, which aims to strengthen the Philippines' capacity for innovation-led inclusive growth.

"We are very grateful for the research financial support from the USAID STRIDE program. It enabled us to kick-off the initial research into its final research expected outcome, which was subsequently supported by the Philippine government," said principal investigator Jefferson Hora.

The successful result of the research project allowed MSU-IIT to receive subsequent funding support totaling [REDACTED] from the Department of Science and Technology–Philippine Council for Industry, Energy, and Emerging Technology Research and Development (DOST-PCIEERD) to design the complete System-on-Chip (SoC) toward a customized WSN. Such development may find value in the agriculture sector for crop and environment maintenance and in efficient management systems of other industries.

Improving capacity and developing local talent

Apart from the development of a promising technology, the research project has also gained positive outcomes in terms of further strengthening the capacities of the Microelectronics Laboratory in IC design and enhancing the skills of students of MSU-IIT.

"The USAID STRIDE funding further improved and capacitated the Microelectronics Laboratory (Microlab) of MSU-IIT to engage in the end-to-end design activities of IC design, that is, from design to product development," Engr. Hora said.

MSU-IIT is now leading microelectronics education in Mindanao, having shared its knowledge, technology, and skills with 12 partner universities–with the goal of helping them establish their own microelectronics curriculum.

Engr. Hora likewise attributes the contribution of the USAID support to the Commission on Higher Education's (CHED's) recognition of its Electronics Engineering program as the only Center of Excellence in Visayas and Mindanao and as a Virtual Center for Technology Innovation–Microelectronics based on the standards set by the DOST.

The university has also been attracting several industry partners and emerging players to tap local talent as they grow their IC design businesses in the country.

"The IC design software tools funded by USAID STRIDE capacitated students to have hands-on experience using industry-standard IC design tools. The university has produced highly-qualified graduates with skills in IC design to address the human resources skills required not only by our industry partners but by emerging and start-up IC design companies in the country as well," Engr. Hora explained.

With the successes and outcomes of the STRIDE-supported project, Engr. Hora looks forward to an increased microelectronics IC design awareness in the Philippines, and eventually, the overall development of R&D IC design in the country.

“The recently established companies in the field will no longer push the goal of bringing back Filipino IC designers abroad. They will join the emerging and start-up IC design companies with the aim to train microelectronics design engineers in the country. This will help in realizing the vision of having a Silicon Valley in the Philippines–that we could pool local talents with IC design skills at any time, so that we could have not only electronics test engineers but the core designers as well,” Engr. Hora said.

MSU-IIT is one of the recipients of the 68 research grants awarded by USAID aimed at supporting collaborative research between Philippine universities and either a U.S. university or a Philippine company. With the support from USAID through STRIDE, MSU-IIT and its Microlab have strengthened its capacities with improved design capabilities and increased skills in IC design. With this, MSU-IIT is now emerging as a trailblazer in Mindanao, boosting the development of a sustainable microelectronics design industry in the Philippines.

SUCCESS STORY

USAID Grantee Supports the Growth and Upscaling of Northern Luzon's Purple Yam Industry

Engr. Raffy Espiritu (second from right) with ube farmer cooperators and partners. Photo: Raffy Espiritu

TEAM Ube Tech winning the Hamano Products Award in Tech Plan Demo Day in Singapore 2017. Photo: Raffy Espiritu

Farmers in northern Luzon grow raw *ube* (purple yam) tubers, which are used in a variety of products like native jam, ice cream, and as food additives. The industry however faces problems of seasonal and uneven production, and low harvest quality.

These challenges prompted Don Mariano Marcos Memorial State University (DMMMSU) based in La Union to provide an innovative solution to help address the difficulties besetting the region's *ube* industry. Through the project, "Upscaling Business and Engineering Technology (UBE-Tech) for the Purple Yam Industry in Northern Philippines," the university intends to help the industry become more sustainable, competitive, and increasingly profitable.

Implemented in 2015 together with industry partner Chemfree Foods, the UBE-Tech project has initiated the upscaling and establishment of locally generated technology toward value-added products from *ube*. The research was made possible through a [REDACTED] grant from the United States Agency for International Development (USAID) through its Science, Technology, Research, and Innovation for Development (STRIDE) Program.

Developing technologies to push the growth of a valuable industry

Five years since its implementation, the project has now delivered fruitful and encouraging results particularly on developing technologies and creating partnerships to strengthen the *ube* value chain.

Among the project's achievements include improvements made for a more efficient processing of *ube* through the fabrication of a prototype drying unit that has increased processing capacity while also improving product dehydration that is important for quality assurance.

Another important component of the research is the characterization of anthocyanin extracts (the chemicals that cause the yam's purple coloration), through which the natural color of *ube* has been deemed appropriate for human consumption. This

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also led to the development of a technology of spray drying *ube* extracts for food colorant, flavoring, and nutraceutical ingredients that has many uses in food manufacturing.

The research also generated a geographic information systems-based database that identifies areas in northern Luzon with high potential for *ube* production. “Eight municipalities in La Union and seven municipalities in Ilocos Sur showed very high potential for *ube* production,” principal investigator Engr. Raffy Espiritu said. Such undertaking is seen to further boost the production of the highly valued crop in these regions.

From the project’s many milestones, one that has the most impact to beneficiaries was when the project upgraded *ube* processing to a pilot plant scale. “This serves as a common service facility for local industry players and farmers’ groups wishing to venture in *ube* powder processing and other related value-added products. The project was able to inspire local farmers to revive their *ube* production enterprise as well as created renewed interest in *ube* farming,” Engr. Espiritu said.

To date, 69 farmer-cooperators of the project were able to expand their *ube* plantation. One such group was the Langcuas Women Ube Processors Association based in La Union, which reported a 120% increase in production of *ube* tubers and *ube*-based food products after being assisted by the project.

Aside from developing technologies to help farmers and support the *ube* industry in Northern Luzon, the project also had its share in the improvement of innovations to agriculture and food engineering in the country. The UBE-Tech Laboratory was proposed to be upgraded as a “Regional Agricultural, Bio-Products and Food Engineering Innovation Center,” which received favorable endorsement from the National Economic and Development Authority–Ilocos Regional Development Council, and to the Department of Science and Technology as one of the Niche Centers in the Regions for R&D for funding.

It is interesting to note that the project has also gained international recognition for the development of new powdering technology, which can support the commercialization of lightly pigmented *ube*. UBE-Tech received the Hamano Award for product innovation in the Southeast Asia Regional Finals TechPlanter Demo Day 2017 held in Singapore and was likewise named National Winner during the First TechPlanter Demo Day Philippines 2017.

DMMMSU is one of the 23 Philippine universities that received a research grant from USAID through STRIDE to do collaborative research with a partner industry. Even as the project concluded 3 years ago, its promising results and outcomes continue to benefit a highly valued industry and contribute to the region’s economic growth.