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Working Paper

Bringing Digital Skills, Solar Energy, and Hope for Future Employment to Women Under One Roof

ICT India Working Paper, No. 9

Provided in Cooperation with:

Center for Sustainable Development (CSD), Earth Institute, Columbia University

Suggested Citation: Akula, Srinivas et al. (2019) : Bringing Digital Skills, Solar Energy, and Hope for Future Employment to Women Under One Roof, ICT India Working Paper, No. 9, Columbia University, Earth Institute, Center for Sustainable Development (CSD), New York, NY

This Version is available at:

<https://hdl.handle.net/10419/249798>

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Bringing Digital Skills, Solar Energy, and Hope for Future Employment to Women Under One Roof

Mahabubnagar, Telangana State, India

ICT India Working Paper #9

Srinivas Akula, Haein Shin, Radhika Iyengar, Navatha Kanike, Tara Stafford Ocansey, and
Joaquin Aviles Lopez

May 2019

BRINGING DIGITAL SKILLS, SOLAR ENERGY & HOPE FOR FUTURE EMPLOYMENT TO WOMEN UNDER ONE ROOF

Executive Summary

This document outlines one of the Centers in operation as a part of the broader ICT Center Model¹. The concept that began with the goal of combining multiple Sustainable Development Goals (SDGs) to improve educational and employment opportunities for women resulted in ICT Center, including the fully functioning ICT Women's Center in Telangana State, India. Powered by solar energy, where skills trainings offered in the areas of computer, English, life skills and environment, aim to prepare young women for future careers and job opportunities.

The document outlines various components that were required to begin operationalizing the Center, from infrastructural inputs to curriculum design and delivery. Initial months of operation revealed the high demand for the skills training provided through the Center, and as a result, continuous updates to the Center operations and programs are explored to accommodate the needs of newly interest participants as well as to continuously build upon initial training. The initial months also shed light on the importance of: active involvement of local leadership at each stage of project development; engagement of local district government leadership and offices (rural development office, public health initiatives); establishment of relationship with local educational institutions; and collaboration and enthusiasm of all parties involved in setting up the Center.

The components outlined in the document will continue to develop as the operations moves forward. Particularly, continued efforts will take the forms of: monitoring energy production and consumption at the Center; partnerships strengthened with local educational institutions as well as target populations for computer skills training; engagement with local employers and input from local professionals as mentors and speakers on curriculum contents; building additional support for participants through advancing curriculum contents and related activities, based on participant feedback and course evaluations.

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¹ <http://csd.columbia.edu/2018/05/03/under-one-roof-bringing-digital-skills-solar-energy-hope-for-future-employment-to-women/>

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I. Summary of Concept & Model

While the global trend advances further into faster and more efficient technology-enabled education, health, agriculture, energy and communications, there remain significant gaps that go unnoticed amidst the sweeping advancements in gender parity, electrification and opportunities for employment. Global access to electricity and access to mobile devices are synonymous to opportunities for growth that can impact education, health social and economic development²; however, there are stark variances depending on the region with marked disadvantages for rural areas and for women.

In addition to regional disparity, global data show how the glaring digital divide prevents women from accessing financial tools or new markets. Women are 36% less likely than men to own mobile money accounts³, while 114 million fewer women own a mobile phone, and women are less likely to use their mobile phones or access Internet than men⁴. One most obvious way to ensure economic wellbeing to improve lives is through employment which can lift families out of poverty—unfortunately, the World Bank statistics show that the global employment rates have been slowly declining since 1991 (61.8%) to 2016 (58.5%)⁵.

This landscape on electrification, connectivity, gender disparity and employment highlights severe inequities, but also presents a huge potential to tailor initiatives that bring together electrification via sustainable and renewable energy as a means to improve lives in marginalized areas—especially of women—for holistic growth and development. Taking all these factors into consideration, the ICT Model devised by [i4SD](#) and [CSD's Connect To Learn](#) teams envisioned concrete ways to provide income-generating skills for women through targeted skills training with the use of sustainable and renewable energy. The result is a comprehensive “ICT Center” model for Information and Communication Technology (ICT) for women’s entrepreneurship and empowerment in India now in operation in Telangana state.

² <https://true-origin.com/posts/2017/4/2/week-3-mapping-electrification-needs>

³ Connect Women. Mapping the mobile money gender gap: Insights from Cote d’Ivoire and Mali. Accessed 24th April 2018
<https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2017/04/Mapping-the-mobile-money-gender-gap-Insights-from-Cote-d'Ivoire-and-Mali.pdf>

⁴ <https://www.gsma.com/mobilefordevelopment/programme/connected-women/women-and-mobile-in-india-realising-the-opportunity/>

⁵ <https://data.worldbank.org/indicator/SL.EMP.TOTL.SP.ZS>

The Center brings a unique combination of sectors such as energy, education, gender to meet the Sustainable Development Goals (SDGs).

This Center operation aims to address the disadvantages, faced particularly by women and those with limited exposure to education and skills training, keeping them in low literacy and digital literacy levels. Using digital tools in a solar-powered All Women's Computer Center, women access information, train in digital competency areas as well as trade-related knowledge areas, and communicate with other women to become more aware of gender biases and injustices that often hinder their own growth. As individuals in a trusted community setting, the Center and its training target the means to improve economic and skills training for young women.



The location of the ICT Center in Mahbubnagar District in Telangana resulted from CSD's long standing relations with the local district officials on implementing SDGs.

The project is in partnership with the local government. The Center's building is given by the District Collector on a rent-free basis. The ICT Center uses multi sector strategies to address Sustainable Development Goals for Education (4), Gender (5), and Energy (7) with CSD taking the lead on education

contents with technical inputs from i4SD on the energy component.

Clean and renewable energy is utilized to power an educational space where women address the gender issues that impede on their growth while training in concrete digital skills and literacy pertaining to local market trades. Our idea advances the existing commitment of participants and ensures sustainability by comprehensively packaging the different components of this approach.

II. Summary of Set-up Process

The Center has come together in a short time of six months, from the securing of funding to operation. The intense groundwork during that period included numerous infrastructural assessments and installations, materials procurement and delivery, recruitment and stakeholder engagement along with several rounds of curriculum design and drafting of curriculum content.

Infrastructure & Solar

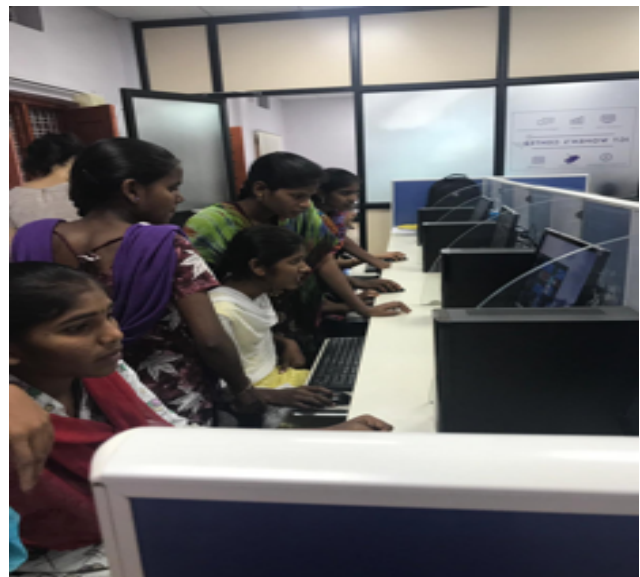
The in-kind donation of the Center building by the District Collector and Magistrate of Mahbubnagar (DC) went through initial assessment of DC-approved engineers to decipher the appropriateness of the structure for the proposed solar installation as well as the capacity to hold multiple and continuous classes. Along with the initial rounds of building assessment, the first inputs required were basic revamping of the Center. This



included structural revamping to accommodate the solar installation such as securing the surfaces of the roof for solar panel installation, repainting walls, putting up dividers, cubicle installations and setting up the interior classrooms. Based on a load survey, a 10kW rooftop solar installation with batteries was done for optimal solution to allow full autonomy of the Center. This energy capacity would also enable future extra income generation of the Center to sustain itself by selling excess of solar production to the grid on a net-metering basis; and/or incorporating further revenue streams such as battery charging, selling cold drinks, additional non-educational printing/computer materials, etc.

Curriculum

The framework of the curriculum content was devised by the education team of CSD upon initial conversations with DC and the local team on what contents would be most appropriate for the Mahbubnagar locale. The logframe and key indicators guided the design of the curriculum contents to be included, with a particular focus on skills desired in the local job market. These were broadly identified as English (conversational),



Computer (presentations, computation, typing, social media), Business (computing and formulas, marketing and advertising), Life Skills (communication, self-confidence, teamwork/collaboration and leadership). During the first week of operation, meetings with the District Collector and the various departments under his purview, District Institute for Education and Training (DIET), women professionals in the locale, professors and development workers—helped to further target and narrow the training and curriculum contents: this included effectively utilizing computer skills for business promotion and marketing, concise and effective communication using social media, presentations and official correspondences and handling customer complaints or inquiries. Based on the curriculum plan, the first weeks focused on creating a familiar and approachable environment for the participants with numerous rounds of group activities, brainstorming session, ice breakers and reflections on personal successes and helping factors for their successes. While providing training, the Center aims create a foundational support network where personal and interpersonal development can take place.

ICT CENTER PROJECT_i4SD_CSD_MAHBUBNAGAR									
IMPACT									
Increase the		Dec-18							
OUTCOME		Outcome Indicator 1	BENCHMARK	Baseline	Midline	Endline	Target (date)	Tools	
Increase access to vocational training with employable skills for local job market (Information and Communications Technology -		Outcome Indicator 1							
		# of students who enrolled in the classes							
		Outcome Indicator 2							
		% of students who attended majority (ie. 75%) of the classes	90%						
		Outcome Indicator 3							
		% of students who completed the courses	90%						
OUTPUT 1		Output Indicator 1		Baseline	Midline	Endline	Target (date)	Tools	
Increased number of youth able to execute concrete ICT skills		(SDG Indicator 4.4.1.) % of youth and adults with ICT skills by type of skill (C4 - C11)							Computer Competency Assessment 1 is for baseline /
	C1	Able to type in English							Typing Test
	C2	Able to type in local language (Telugu)							Typing Test
	C3	Enter data in spreadsheet							Typing Test
		Computer-related activities to measure ICT skills are as follows:							Computer Competency Assessment 1
	C4	Copying or moving a file or folder							Computer Competency Assessment 1
	C5	Using copy and paste tools to duplicate or move information within a document							Computer Competency Assessment 1
	C6	Sending e-mails with attached files (e.g. document, picture, video)							Computer Competency Assessment 1
	C7	Using basic arithmetic formulae in a spreadsheet							Computer Competency Assessment 1

Sample view extracted from logframe

Having learned that the baseline of the students was significantly lower than expected in computer usage, as well as a relatively short period to learn competencies (3 months), the program contents has been redefined to target key areas identified along with DC's Center visit and to match the realistic pace of the classes. The sample Week 1 curriculum content plan below reflects the latest draft reflecting the adjustment that needed to be made to accommodate time constraints, students' availability and competency levels.

COURSE	Summary	Sequence	THEME	Classes / Days of the Week	ENGLISH	COMPUTER	LIFE SKILLS	BUSINESS / FINANCIAL LITERACY
Part 1								
1st MONTH	Introductions to the overall course and getting the foundations in computer use, conversational English, relationship and teamwork building.	Month 1	MONTH SUMMARY	Month	Being able to describe self	Typing & MS Word	Self assessment and confidence	
		Week 1	SELF CONFIDENCE & TEAMBUILDING	Day 1		1) Course and Center introduction 2) That is Me Activity 3) Iceberg Illusion brainstorm 4) Personal Goal Setting with Life Skills Assessment 5) Setting Center Rules 6) Choosing a Center / Group Motto		
				Day 2	3) Greetings & Introductions	/	1) Unit 1 Activity 1.A. "My Name Is..." 2) Activity 1.B. "It was a big Success" & My Life Timeline	/
				Day 3	1) Review of Greetings & Introductions 2) Common English Phrases	3) Baseline Computer Test 4) MS Word / writing a letter	5) Sharing of the My Life Timeline	/
				Day 4	/	Computer Practice Day	/	/
				Day 5	Closed			
				Day 6				
				Day 7				
				Week 1 Summary	Self & Family	Typing English & MS Word	Self assessment and confidence	/

The first cohort of participants also chose a group motto on women's empowerment. From these activities, the class transitioned into more time in the computer lab to practice, as well as structured class sessions on Microsoft Word usage for typing, writing personal letters and writing business letters. The curriculum contents planned continued in the coming weeks for a duration of three months.

III. Summary of Operations

RECRUITMENT & OPERATIONALIZING CLASSES

The recruitment process prior to and during the Center's opening week involved establishing relationships with the most likely users of the Center. This included proximity, availability and timing considerations, and the female student housing next to the center, hosting 400 female students became a natural priority for contact.



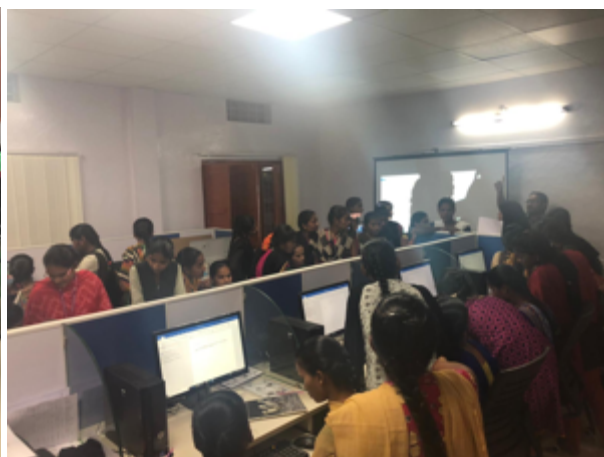
The follow-up conversation and meeting with the Principal of the student housing turned into a large meeting within the housing hall with over 60 students hearing about the ICT Center's opening and curriculum contents. The students expressed enthusiasm for learning English and Computers, based on what they had heard previously from project staff and housing Principal. With facilitation from the project team, the students shared some of their future dreams and their current areas of study.

Within the first three days of operations, the Center has 130 registered students. Due to the computer availability (10) and scheduling constraints to match student availability, two batches of 25 students (50 students) are in the first cohort. The 50 students will participate in the 3-month course.

The remaining 80 students are in a waiting list with more students visiting the Center daily to use the computer and to engage any curriculum content being offered. Currently, the 50 students are attending Mondays to Wednesdays from 5pm to 6pm (Batch1) then 6pm to 7pm (Batch 2). Thursday and Fridays are reserved as Practice Days accompanying what they learned from Mondays to Wednesdays. The Practice Days became necessary upon assessing the low baseline of computer knowledge among students during the first few days of interaction with the students.

The attendance of students is monitored on a daily basis. Given the huge demand on the classes, strict rules have been set for the class schedule. In case of continued, unexcused absences, the individual student in the 1st cohort will be replaced with someone on the waiting list.

During the opening week with ample project staff, the high demand was able to be accommodated by splitting between scheduled classes versus interactive activities in two separate classrooms (class and computer lab) of the Center.



The record of attendance throughout the first phase of ICT Center operations is as follows:

Attendance & Batches (cohort)

There were continuous variations in the participant groups as the Center settled into operation.

In December & January, there were 2 main batches:	5pm-6pm	6pm-7pm	X	X	X
Starting in February, schedules were adjusted and 1 morning batch was created to match participant schedule:	5pm-6pm	6pm-7pm	AM Batch	X	X
Mid-February, the morning batch was split to 2 batches	5pm-6pm	6pm-7pm	11am-12am	1pm-2pm	X
In March, another batch was added	5pm-6pm	6pm-7pm	11am-12am	1pm-2pm	10am-11am

	Average Attendance Rates	Dropout Rates	Retention	Retention (including replacement)
December	62%	59%	.	.
January	61%	51%	.	.
February	53%	40%	60%	81%
March	67.5%	31%	69%	73%

The average attendance rates during the pilot period ranged from 53 to 67.5%, with the lowest attendance in February, and the highest attendance in March. The dropout rates have decreased over the course of the 4 months, from 59% to 31%.

The retention rate, (students continuing the courses) are between 60 and 69%. The retention rates (including replacement) have been included to show that when students drop out, there

have been students who were replaced, so the volume of participants in the Center is sustained, despite the dropout rates.

Going forward, there will need to be Center policy and measures set to encourage attendance. It may also be necessary to divide classes to intensive course offering classes (with the goal of employment) versus more open, casual and practical classes where students are not tracked by attendance to widen Center operations.

CONTINUING & UPDATING CURRICULUM CONTENTS

Course contents were offered in 4 major areas with an added component by guest speakers:

English focus on conversational English and presentations using English. Learning activities for the class and small group discussions, question and answer, group presentations, role-playing, and writing exercises were mostly conducted in English.

ICT content began with foundational skills (one-to-one practice with a desktop computer, machine functions, Internet and browsing the web, basic word processing, spreadsheet, and slide creation functions using the Microsoft Office Suite).

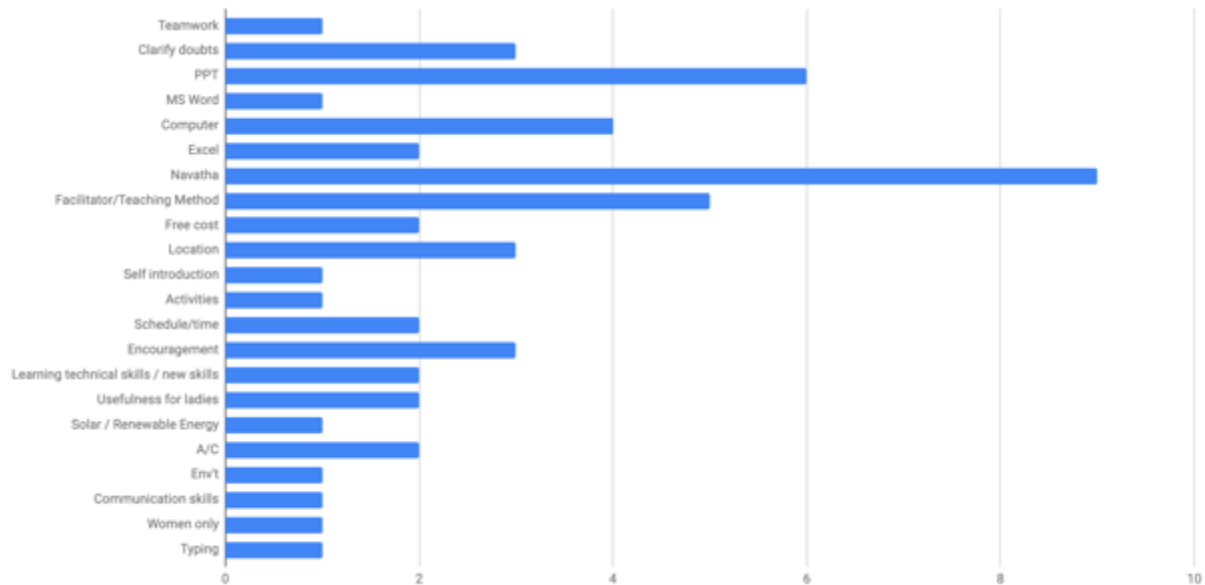
Financial Literacy transformed to more Business Skills—this included Marketing chapter as well as skills required to prepare for the job market. This included business letter writing, presentations and interview skills and preparation for job interviews.

Life Skills content was woven throughout the course, mainly in the forms fostering personal and interpersonal development through building confidence, building rapport, active listening, positive communication.

Guest Speakers spoke on hygiene, public health, nutrition, life skills (team building), self-confidence and marketing.

Environment Topic: Given the environmental issues in Mahabubnagar (burning trash near ICT Center vicinity, trash disposal, air quality) as well as the focus of the Center on sustainable development and renewable energy, this component will be given further focus in the next steps of the operations.

The following are responses to what the participants enjoyed most about the ICT Women's Center in the pilot phase operations (N=37).

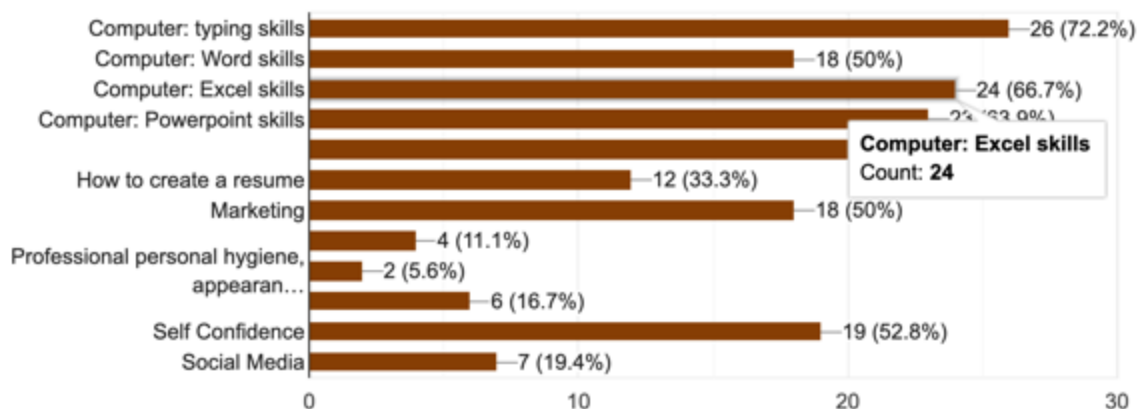


There was great successes in the facilitation of the instructors (Navatha Kanike and Srinivas Akula) with most respondents saying their favorite thing about ICT women's center is "Navatha" and "Facilitator/Teaching Method."

Students enjoyed learning PPT and they felt their "doubts were clarified"—along with encouragement, which speaks for a good start in building students' confidence through the dynamics and teambuilding integrated in the proceedings of the class.

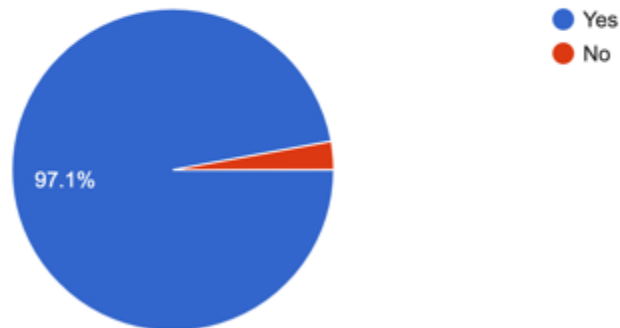
Please select (maximum 5) topics that were helpful to you.

36 responses



Would you be interested in a Part 2 of the course?

35 responses



V. SOLAR ENERGY

Using renewable energy has helped the Center to be focused on environment sustainability. The solar panels have helped the Center to generate on average 38kwh of clean energy every month. Currently, the team is putting in place smart meters to detect the usage per device. The panels support AC units and all computers as well as also supply power to the Government office in the same premise. This plan has helped to save Governmental funds as well helped the environment by producing clean energy. The project team is able to track the energy produced and utilized by the Center on a regular basis.



VI.PLANS FOR 2019

CURRICULUM CONTENTS

English: Given the requests from learners and the noted low levels of conversational English, lessons will be devised to emphasize the spoken component and weaving in speaking English to all topics.

Computer skills requested from participants were accounting skills and specific job-preparation skills. Further, activities will need to be built for advancing skills in online research, creating

email accounts and other useful online accounts (e.g. banking), using social media, typing letters and resumes, creating spreadsheets, transcribing, and creating slides.

Life Skills given the basic comfort established during the first 3 months of the course, the next phase will focus more on leadership and specific team building. Skills areas such as decision-making, problem solving, coping with stress, as well as goal setting and action planning can be introduced. Combined with broader set of life skills, these concrete competencies related to setting goals, priorities, time management and taking action, will allow participants to become well-rounded individuals as well as professionals. The Center hopes to raise a generation of leaders who can also become future managers and facilitators in a similar setting, or even as a junior support to the current managers at the Center.

Guest Speakers & Employer Relationship

The area needing most focus will be establishing relationship with the employers. Through the operations in the first phase, the team has been establishing contacts with external guest speakers who can develop online modules on life skills, public speaking contents, as well as e-mentorship wherever possible. These avenues will be further explored for the subsequent operations of the Center to bring in more expertise and knowledge in specific areas from which the participants can benefit.

Environmental Education - using Inquiry based learning environment at ICT Center, Mahbubnagar

It's been more than 3 months since the Center is running in full swing with so many batches. Classes are now being regularly conducted on topics like Conversational English, Basic ICT skills, foundation concepts in financial literacy and strengthening of life skills. Girls are now getting used to the spirit and culture of the center which is helping them take ownership of their own learning. It is helping them come up with questions and some are even utilising computers at the center with their recently acquired computer skills, to independently look for answers.

To further develop this curiosity, our next plan of action is to start with the sessions on Environmental Education. The idea is to see how aware and concerned they are about their surroundings and motivate them to have an attitude to work both individually and collectively towards solutions of current problems and the prevention of new ones. The intention is to start an open dialogue that will help them stimulate their curiosity as well as engage with real world issues that transcend classroom walls. While the process of framing curriculum for Environmental Education is still an ongoing, few sessions were conducted to see the response from the girls and how that can be incorporated in the design of the modules.

During the introductory session, girls were divided in small groups and were thrown a lot of questions ranging from current climate changes they are observing, to the use of plastic in houses. The approach was simple i.e. by using Inquiry based learning, making them aware of practices and attitudes around them toward the environment and helping them to inquire into those. The facilitator guided the discussion by interjecting at critical moments, asking the right kind of questions and creating a friendly environment so that girls can share their thoughts

without any hesitations. The entire classroom became engaged in discussions, they were comfortable and sharing confidently. They were actively participating and were themselves driving the discussion. It was clear this was something they could relate to their everyday life experiences.

After discussing in their small groups now it was time to share their ideas with the larger group and they came up with lot of interesting ideas about what factors are responsible for climatic changes, different kinds of pollution and ozone layer depletion, increasing greenhouse gases and all of this resulting in global warming. The next part of the session was to help them think of the possible solutions to tackle these problems.

Girls came up with so many possible solutions, many of them already existing and few of them were very imaginative as one of the groups suggested “to collect all the garbage from the earth and transport it to some other planet”. At least now they were thinking of the possibilities, but with more brainstorming guided by right questions the discussion progressed from using “we statements” to “I statement”. The session left girls with the idea of them feeling important and being in a position to do something, starting with their own surrounding and eventually making things better around them.

The focus of environmental education sessions in future will be on transforming such ideas from classroom discussions to actionable steps that can be taken to resolve environmental problems in their community. This shall provide them with opportunities to employ the knowledge and skills they are acquiring at the center to understand the larger ecosystem, the contexts in which they are placed and their role in it. It shall inform their views on current societal norms toward the environment and help begin conversations around their acceptance and utility.

Post-Pilot Phase Reflections:

Upon launching ICT Women’s Center in December 2018, the Center has gone through more than three (3) full months of operation from mid-December 2018 to late March offering classes to more than 100 young women. Even as the operations continue with new cohorts (batches) formed and taking courses through March and April, the courses are designed to be 3-months in duration for each cohort. Having completed the initial 3 months, the management teams in New York and Telangana take this post-pilot phase to reflect on various aspects of operations and management to adjust and pave way for the continued operations going forward.

Annual Calendar

The project team has learned that there are many interrupted days affecting the attendance of intended target group due to academic and annual holidays, examinations, combined with seasonal patterns (such as students returning to their hometowns outside of Mahabubnagar during summer months).

Month	Days Off	Reasons	Fit for Classes? (Yes/No)	Comments
January	1	Holiday	YES	

	2-8	Exams		
February	0	N/A	YES	Full month of uninterrupted days
March	4 5-8 21 12-31	Maha Shivarathri Holiday Exams (Inter) Holi Holiday Academic Holiday (Inter)	NO	Instead of fixed cohorts, we should think of doing seasonal environmental work during these months
April	1-30 22-30 22-30	Academic Holiday (Inter) Academic Holiday (Degree) Exams (Degree)	NO	Need ideas for summer months / perhaps a new target group
May	1-31 1-31	Academic Holiday (Inter) Exams (Degree)	NO	Need ideas for summer months / perhaps a new target group
June	1-7	Exams (Degree)	?	Depending on when students return to Mahabubnagar
July	0	N/A	YES	Full month of uninterrupted days
August	15	Holiday	YES	
September	2,10	Holiday	YES	
October	2,7,8 9-21	Holiday	NO	
November	7-9 21,23	Diwali Holiday	YES	
December	24,25,31 26,27,28	Holiday Exams	YES	

Based on the calendar, the following considerations need to be given and decided by the project team:

- **TO DO: Set plan for start & end for the new full 3-month course**
 - Questions to consider:
 - Given our current capacity, how will we schedule **Course Part I** (taking in new cohort) versus the more advanced **Course Part II** for continuing participants?
 - When current Batch finishes in May, should we hold off on June as re-orienting period to do sessions and start the “intensive” full 3-month course from July to September, then October to December/January?
 - For example, in the current schedule, **July-September** is the best cycle for minimal interruptions.
- **TO DO: Set plan for how to utilize Summer months:**
 - Set target group and activities to be done at the Center for Summer months, even if it is minimal:

- For example, a non-intensive program or topic-programs on environment or a program similar to a summer camp
- The target for this would be the populations who will physically be still in Mahabubnagar even during summer months
- Part of the summer months should be used for **annual reflections for next year's planning and curriculum/program/operation adjustments**
- Summer months should be used to **identify any new group of mentors, speakers and/or potential employers – and to schedule them into the curriculum**

Management & Operational

The project team has learned various aspects of running the Center in the pilot phase. Some considerations going forward are as follows:

TO DO:

- **Landing Page on computers:** Even participants who use Internet for the first time is drawn to entertainment in using the Internet, because they are the first available images on landing pages. For this reason, to encourage typing practice and learning concrete skills whenever possible, the landing page will be set as the typing page.
- **Cyber Wellness and Security** is an important topic that will be given foremost importance in introducing participants to Internet use (this can be the 1st session).
- **Promotional materials to share with community and local institutions:** Business cards or brochures can be printed in Telugu to share with women in Mahabubnagar for future women's classes. This can also be used to talk to potential employers and recruiting local speakers.

Energy & Connectivity

Consumption & Production Trends

After one year (tentative) of operation, the project can begin to introduce Energy training and management to certain individuals with strong leadership skills as well as commitment to continuing in the Center.

- These energy trainings can first be introduced as a training to identified individuals, then be introduced in the curriculum for a broader group.

Pre & Post Measures:

Learning Gains: The initial metrics and assessments that were set in place were difficult to monitor with drastic changes in the attendance patterns and adjusting of Batches. Given the first pilot phase, some indicators that should be kept or modified are outlined below:

ICT CENTER PROJECT_i4SD_CSD_MAHBUBNAGAR

IMPACT					
Increase the			Dec-18		
OUTCOME	Outcome Indicator 1		BENCHMARK	Baseline	Midline
Increase access to vocational training with employable skills for local job market (Information and Communications Technology - ICT)	# of students who enrolled in the classes				
	Outcome Indicator 2				
	% of students who attended majority (ie. 75%) of the classes		90%		
	Outcome Indicator 3				
	% of students who completed the courses		90%		
OUTPUT 1	Output Indicator 1			Baseline	Midline
Increased number of youth able to execute concrete ICT skills	(SDG Indicator 4.4.1.) % of youth and adults with ICT skills by type of skill (C4 - C11)				
C1	Able to type in English				
C2	Able to type in local language (Telugu)				
C3	Enter data in spreadsheet				
	Computer-related activities to measure ICT skills are as follows:				
C4	Copying or moving a file or folder				
C5	Using copy and paste tools to duplicate or move information within a document				
C6	Sending e-mails with attached files (e.g. document, picture, video)				
C7	Using basic arithmetic formulae in a spreadsheet				
C8	Connecting and installing new devices (e.g. a modem, camera, printer)				

C9	Finding, downloading, installing and configuring software
C10	Creating electronic presentations with presentation software (including text, images, sound, video or charts)
C11	Transferring files between a computer and other devices
C12	Awareness of Cyber Wellness concept

OUTPUT 2		Output Indicator 2.1	Baseline	Midline
Increased number of youth knowledgeable with applicable business and financial literacy skills	B1	% of students who have the knowledge to open a bank account		
		Output Indicator 2.2		
	B2	% of students who can do basic accounting calculations		
		Output Indicator 2.3		
	B3	% of students who can do financial planning / budgeting		
		Output Indicator 2.4		
	B4	% of students who understand basic financial concepts (as defined by program)		
OUTPUT 3		Output Indicator 3.1	Baseline	Midline
Increased number of youth able to use English in professional ways	E1	% of students able to converse in basic English to describe daily events and tasks at work		
		Output Indicator 3.2		
	E2	% of students able to write business correspondence		
		Output Indicator 3.3		
	E3	% of students able to verbally handle customer queries and complaint		
		Output Indicator 3.4		

E4

% of students able to verbally describe product and company

OUTPUT 4	Output Indicator 4.1	Baseline	Midline
Increased employment of youth upon completing vocational training courses	SDG indicator to be specified for project population. % of youth (15-24 years) labor force that is employed in formal and/or informal work, with formal and informal work being counted separately. The labor force comprises all persons within the above age group currently available for work and actively seeking work, and the sum of those that are employed and unemployed.		
OUTPUT 5	Output Indicator 5.1	Baseline	Midline
Increased access to electricity in learning programs and community, enabled by clean, renewable solar energy mini grid	Number of classes held as a result of solar mini grid		
	Output Indicator 5.2		
	Number of youth accessing the ICT Center to use electricity (charging, etc.)		
	Output Indicator 5.2		
	Number of community members accessing ICT Center to use electricity		

DIETS: ENGLISH & ICT CONTENT FOR TARGETED SKILLS DEVELOPMENT

Out of the Center operations, a linkage to DIETS were created. On daily operations, the two are not directly linked, but the management teams are linked in the progress and communication of the DIET operations as well.

The initial discussions with **District Institute for Education and Training (DIET)** leadership and professors the brought to light the need for the DIET training students (training to become teachers) to use MS PowerPoint as a part of their graduation requirement to give presentations

on their teaching content. For this reason, the DIET students have been getting practice sessions on computers and presentation creation.

The DIET syllabus has been obtained through a meeting with the DIET leadership as well as the teaching professors at the DIET program. Based on the curriculum, a plan and a set of activities has been drafted. However, the base level of the DIET students on computer literacy was so low, that a beginner's computer class was taught. The facilitator needed to begin with very basic knowledge about computer and devices, such as mouse keyboard, CPU, monitor and how to operate them & their functions. From that basic foundation, MS Office, and MS PowerPoint were taught. After the basics, the students were asked to create their own materials and they were able to perform and deliver the basic documents and presentation.

Based on operation thus far, a follow-up conversation will be held in July 2019. Contents will need further feedback and curation based on student needs. In essence, the project will take the existing SCERT curriculum and develop learning activities that will be infused into the ICT and English subject syllabus. The project will start with a pilot in Mahbubnagar which will be helpful to prepare a generic model for the country.

***Center for Sustainable Development (CSD)** is positioned at the heart of the Earth Institute at Columbia University, whose research and innovative solutions support governments and organizations around the world to achieve the Sustainable Development Goals. The education arm of the Center, Connect To Learn, is an initiative of CSD, Ericsson and Millennium Promise whose mission is to address the lack of universal access to quality education, with an emphasis on the marginalized - especially girls - in resource poor settings globally.*

***i4SD (Infrastructure for Sustainable Development)** is a social impact design firm that uses innovation to change the way infrastructure systems are designed and operated. Their mission is to enable universal access to affordable and modern infrastructure services: Energy, Water, Transport & Connectivity. i4SD brings together traditional master planning, IoT technologies and public-private partnerships to deliver sustainable infrastructure projects providing access to essential services in traditionally undeserved areas.*

D. Ronald Rose, I.A.S.,
Collector & District Magistrate
MAHABUBNAGAR



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D.O.Lr.No.Peshi/18/2018, Date: 17-04-2018

Dear *Madam / Sir*

I am writing this letter to endorse the literacy initiative by the Center for Sustainable Development at the Earth Institute, Columbia University. In my role as the District Magistrate and Collector in Mahbubnagar district, Telangana State in India, I have been working with Dr. Radhika Iyengar to implement the Telugu Language Literacy approach for one Block -20 schools. I have been overseeing the literacy project for more than 3 years now.

Dr Iyengar approached me to showcase her knowledge and skill of using cognitive-neuroscience based model of improving local language literacy for early grades. I found the model very compelling as it was based on grounded research. We first started to implement the program in 10 schools. The year long project showed remarkable results in language skill improvement for grades 1-3. Therefore subsequently, we have asked the model to be scaled to 20 schools in Nawabpet Block of Mahbubnagar district.

My Education staff and I have been overseeing and providing support to the literacy project. Dr. Iyengar's team brings in the technical expertise of designing the study and using the science to create a contextualized model to suit Telugu language learning. The Government's education staff has been proving technical inputs to monitor the project on the ground and over see the implementation of the project. The Government staff has also helped with organizing teacher training. I am also proud to say that we printed the exercise books designed in collaboration with Dr Iyengar to ensure that all children in the project schools have a book each to read and practice from.

This has been a very fruitful collaboration. The children have reciprocated by showing tremendous improvement in learning Telugu language. The project is a collaborative effort with the technical input from the Center for Sustainable Development and the implementation support from the District Government. We hope to scale-up the approach to learning Telugu in all of the primary schools in the District. We value this collaborative project and wish to support and encourage this venture in any way we can.

As the Government officer under which the literacy project is being implemented in my district, I strongly endorse the researchers from the Center for Sustainable Development for the 2018 Library of Congress Literacy Awards.

Happy to answer any questions that you may have.

with kind regards

(D.Ronald Rose)

To
The Selection Committee,
2018 Library of Congress Literacy Awards.

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Date: 25.06.2018

TO WHOM IT MAY CONCERN

This letter is to show my commitment towards Center for Sustainable Development at the Earth Institute's proposed project on "ICT Let development". Dr. Radhika Iyengar and I have discussed "Women led ICT Center" as a way to promote SDG 5 on women and girls empowerment. I have been discussing this concept with Dr. Iyengar for more than 3 months now and truly feel that Mahabubnagar will benefit from such an ICT Center. It will help provide women employability skills through the courses taught. This will include English language and computer literacy skills along with other foundational skills needed for any kind of profession. We will be particularly targeting youth and women who are currently out of the formal education system. The project is geared towards making "lifelong learning" opportunities a reality in a rural India setting.


This will be a 3 year project. The government will be providing a space to run the Center. We will be identifying a local entrepreneur who will take this on as a business. This income-generating venture will be able to provide to pay for its maintenance as well as the trainer/facilitator salary.

I will try to get Hyderabad based IT companies interested in devoting volunteer time or donating equipment to the Center. This project will run on a smaller budget in the first year and will be expanded based on the need in the 2nd and 3rd year. As a scale-up plan, I will try to replicate this Center's model in other areas in the district.

Mahabubnagar government offices will be involved in regular monitoring and supervision of the center. We can host the various trainings conducted by IT companies as well as Center for Sustainable Development's research team also. We will also convene meetings with local businesses to understand their needs so that the Center run courses can address those specific needs. We are excited to learn from the renewable energy model of the project to be replicate the concept across sectors.

Please let me know if you have any questions or concerns.

With *Regards.*


(D. Ronald Rose)