Center for Sustainable Development Earth Institute | Columbia University



## ICT Center: Mahabubnagar 2019 Review

CSD Working Paper Series

Haein Shin, Srinivas Akula, Navatha Kanike, Yiran Wang

January 2020



Center for Sustainable Development EARTH INSTITUTE | COLUMBIA UNIVERSITY



### ICT CENTER: Mahabubnagar

### 2019 Review

Mahabubnagar, Telangana, India

January 2020

Report by Haein Shin Srinivas Akula Navatha Kanike Yiran Wang



Upon launching ICT Women's Center in December 2018, the Center has gone through one year of operation from mid-December 2018 to December 2019, offering classes to more than 450 young women. Having completed one year of implementation, management teams in New York and Telangana reflect on the various aspects of operations and management, ranging from curriculum, facilitation, scheduling, trainee updates, solar power and logistics to adjust and pave way for the continued operations going forward.





## I. 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). Table 1 below is a 2020 calendar that guided the planning that took place in 2019 for the 2020 year.

Month	Days Off	Reasons	Fit for Classes? (Yes/No)	Comments	
January	14 & 15 2-8	Sankranti Holiday Exams	YES	Few interrupted days	
February 0 N/A		N/A	YES	Full month of uninterrupted days	
March4Maha Shivarathri Holiday5-8Exams (Inter)21Holi Holiday12-31Academic Holiday (Inter)		NO	Seasonal events and special short-term sessions considered		
April	1-30 22-30 22-30	Academic Holiday (Inter) Academic Holiday (Degree) Exams (Degree)	NO	Seasonal events and special short-term sessions considered	
May1-31 1-31Academic Holiday (Inter) Exams (Degree)			NO	Seasonal events and special short-term sessions considered	
June	1-7 5	Exams (Degree) Ramzan Id/Eid-ul-Fitar Holiday	YES	Plan to resume classes upon trainees' return to Mahabubnagar	
July	0	N/A	YES	Full month of uninterrupted days	
August	12, 15	Bakrid Holiday Raksha Bandhan	YES	Few interrupted days	
September	2,10	Ganesh Chaturthi & Muharram Holiday	YES	Few interrupted days	
October	2, 7,8,9-21	Gandhi Jayanti, Dussehra Holidays	NO	Semester-Exams for Students for a 2-week period	
November	7-9 21,23	Diwali Holiday	YES	Few interrupted days	
December	25,26	Holiday	YES	Few interrupted days	

### Table 1. 2020 Calendar for ICT Center Operations





EARTH INSTITUTE | COLUMBIA UNIVERSITY Based on the calendar, the current

cohorts (new cohorts that began November and December of 2019, will continue the sessions until around March 2020.

After the cohorts complete the 3-month foundational course in the spring, the summer months (March to May/June) will be used for special sessions and projects.

Currently, the operation team is planning for specific topic and skills to be offered during the seasonal sessions:

- environmental issues surrounding education for sustainable development, linked to an initiative of the Center for Sustainable Development <u>www.edforsd.org</u>
- group projects based on environment and course topics
- TALLY (book-keeping software)





## II. Attendance & Cohorts (Batches)

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

Eurn	et tot Sussalizable Development et Nort Sussalizable Development et Norther - Batches Tracksheet (Mahabubnagar)									
.No	Batch Timings	Batch Start Date	Batch End Date	Trainees Enrolled Candidates (TE)	Trainees dropouts (TD)	Trainees Replaced (TR)	Training Undergoing Trainees (TU)	Training Completed /Certified (TC)	Remarks	Batch Assessment Date
1	Evening Batch (1) 5-6pm	11 December 2018	11 March 2019	26	13	0		13		Completed Successfully on 08/03/2019
2	Morning Batch (1) 11-12pm	01 February 2019	01 May 2019	30	3	0		27		Completed Successfully on 23/04/2019
3	Afternoon batch 1-2pm	06 February 2019	06 May 2019	30	17	1		14		Completed Successfully on 06/05/201
4	Evening Batch 6-7pm	11 February 2019	11 May 2019	28	10	5		23		Completed Successfully on 08/05/201
5	Morning Batch (1) 10-11pm	26 February 2019	26 May 2019	30	5	0		25		Completed Successfully on 05/07/201
6	Afternoon batch (1) 3-4pm	11 March 2019	11 June 2019	29	0	0		29		Completed Successfully on 08/07/201
7	Morning Batch (2) 11-12pm	02 May 2019	02 August 2019	25	7	0		18		Completed Successfully on 08/08/201
8	Morning Batch 12-01pm	25 June 2019	08 November 2019	27	5	0		22	Batches end date	Completed Successfully on 08/11/201
9	Afternoon batch (2) 3-4pm	11 July 2019	31 October 2019	26	3	0		23	were extended due	Completed Successfully on 31/10/201
10	Morning Batch (2) 10-11pm	23 July 2019	07 November 2019	29	6	1		24	to Govt.holidays and	Completed Successfully on 07/11/201
11	Evening Batch (2) 5-6pm	22 July 2019	22 November 2019	30	5	0		25	going to end on Nov	Completed Successfully on 22/11/201
12	Afternoon batch (1) 2-3pm	22 July 2019	22 November 2019	30	12	0		18	Month.	Completed Successfully on 22/11/201
13	Evening Batch (1) 4-5pm	26 November 2019	26 February 2019	30	0	0	30			
14	Evening Batch (1) 5-6pm	26 November 2019	26 February 2020	28	0	0	30			
15	Morning Batch (2) 11-12pm	24 December 2019	24 December 2019	25			25			
16	Afternoon batch (2) 2-3pm	24 December 2019	24 December 2019	25			25			
			Total	448	86	7	110	369		

Average attendance rate for 1-year period (monthly breakdown in table below):

months had fluctuations due to reconfiguration of classes, attendance starting in July post-summer vacation has sustained at an

### average of 94%)

**Drop-out Rate** for the 1-year period:

Completion Rate: (those successfully completing final assessments and obtaining certificate of completion):

### 25%

**100%** of trainees (who do not drop out) pass the assessments and complete the course successfully, which means if including drop-out trainees, the completion rate is 75%.

78% (while the beginning months and summer



EARTH INSTITUTE | COLUMBIA UNIVERSITY



#### \* Average of all cohorts that are in-session during that particular month

	Average Attendance Rates*
2018	62% pilot cohort, multiple changes with groups
December	reconfigured by grade levels
2019	61% pilot cohort, multiple changes
January	
February	53% pilot cohort, multiple changes
March	68%
April	70%
Мау	58% Exam Period
June	Seasonal sessions, not regular training cohorts
July	99%
August	89%
September	92%
October	96%
November	90%
December	97%

### III. Curriculum & Contents

### **Course Evaluations**

The course evaluations are critical to the shaping of subsequent ICT Center operations. The main findings are below:

#### 1. What was your favorite thing about ICT Women's Center? (Select 3)

<b>-</b> · · ·	Frequency
Topic Areas	Count
	N= 205
Computer skills/lab	141
Facilitator	71
Life skills	47
Communication and language	39
Teaching/Classes	33
English	28

Computers, facilitators and Life Skills were identified by trainees as their favorite things about the ICT Women's Center. This also speaks to the lack of access many trainees had to using computers prior to joining the Center offerings.



EARTH INSTITUTE | COLUMBIA UNIVERSITY

2. Of the skills you learned at the ICT Center, in which skill do you feel MOST confident? (Select 2)



3. Of the skills you learned at the ICT Center, in which skill do you feel LEAST confident (Select 2)?

Typing/MS Word	117
Presentation/PPT	85
Communication and English	34

Excel	76
Business/Marketing	56
Speaking/presentation	22
Financial Concepts	20

The trainees felt most confident in typing (using MS Word) and creating presentations (using PowerPoint), whereas they felt least confident in Excel and business/marketing skills.

Even though they felt least confident in these skills, they also recognized Excel/business skill as an important skill in employment (see #4 below).

## 4. Of the skills you learned at the Center, what skill(s) do you think will be MOST USEFUL for your future employment (Select 2)?

Computer/typing	73
Communication/English/Interview	85
Excel/data	61

Communication was noted as the most useful skill for employment. On the contrary, "discussion and speaking with peers" were only picked 4 times in responses. This is an important component to instill in the trainees, that the discussion/teamwork/ peer communication is an important part of the workforce as well, that may not be very visible or obvious as students in their current settings.

## 5. Which skills or topics do you think should have been covered more (in terms of time & content) (Select 2)?

81
27
33
22

Overwhelming (compared to other frequencies) responses pointed to the need to cover more Excel/data topic in the training. This is linked to trainee response that they felt least confident in Excel as compared to many other topics. This will be given note in programming going forward.





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



Overall, among 240 trainee responses, the top 5 topics that were helpful were identified as:

• Typing skills

240 responses

- Excel skills
- Communication & Presentation skills (145, 60.4%)
- Self confidence
- PowerPoint skills / Word skills

Although Excel was identified as one of the least confident topics of many trainees, it is also recognized as a helpful job-related skill (#4 above) as well as one that is helpful for trainees to learn. Apart from the





Center for Sustainable Development Earth Institute | Columbia University

computer and technical skills, it is encouraging to see that more than half of the trainees responded to **self-confidence** and **communication** skills being helpful for them.

7. Please select (maximum 3) things that can be IMPROVED at the Center 240 responses



Facilitation of guest speakers were marked as top area for improvement (64.2%) as well as topics and contents selected for the class (57.9%) and scheduling and frequency of classes. The details of these aspects will be discussed with trainees for improvement. So far, more guest speakers are being explored and the program team is noting additional topic areas that the trainees would like to learn (ie. TALLY). Scheudling and frequency of classes has constraints due to the large demand, and will be adjusted accordingly with the program team.

## IV. Management & Operational a. Energy & Connectivity

**Consumption & Production Trends** 







The ICT Center yielded and consumed as much as 1343 kWh per month to as little as 130 kWh per month. In the hotter months, there was higher electricity usage in the Center

Some of the compatibility and real-time feedback from the solar meters to the software program is in process of examination for accuracy.



Month	Energy
201901	873.72kWh
201902	1177.94kWh
201903	1279.87kWh
201904	1343.31kWh
201905	1268.73kWh
201906	1090.04kWh
201907	890.49kWh
201908	867KWh
201909	690.9kWh
201910	292.46kWh
201911	438.06kWh
201912	129.89kWh

Once current cohorts are finalized, the project plans 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.





## V. 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, modifications were made on the assessments, which focused on technical computer skills (being able to conduct certain functions as outlined by project Logical Framework of Indicators, as well as presentation skills).

There is a lot of promise shown on the results of the final assessments. Starting from basic minimum with most students who had not used computers at all prior to the ICT Center course, the trainees displayed in the form of their computer skills (creating business letters, flyers, PowerPoint presentations and basic computing in Word, and generating graphs) as well as oral presentations about introducing themselves.

Apart of the students who dropped out, all the trainees that stayed with the program until the end had 100% completion rate by passing the computer and presentation, mock interview assessments.

Total assessment points were out of 46 points. If the trainees achieved more than or equal to 35 points, the trainees received "with Honors" certificate. Trainees below 35 points received completion certificates. The average among 108 trainees (5 cohorts) were 30 points out of 46 points, 65%. The lowest score was 19 and the highest score was 36. There were 22 trainees who received Honors (20% of trainees)

Average assessment performance	30 out of 46 (65%)
Highest score	36 out of 46 (78%)
Lowest score	19 out of 46 (40%)
Trainees with Honors	22 out of 108 (20%)

Given the low baseline of most students not having had any access to computers, the assessment scores exist, but only to commend exceptional performances, rather than giving specific grade or performance break-downs. Following the ICT Center's rationale for encouraging and incentivizing personal growth, actual scores and grades are not given importance in the class proceedings.



Center for Sustainable Development EARTH INSTITUTE | COLUMBIA UNIVERSITY

SAMPLE OF ASSESSMENT BY TRAINEE





## Center for Sustainable Development Earth Institute | Columbia University









Earth Institute | Columbia University





# IASTRUCTURE FOR SUSTAINABLE DEVELOPMENT

## Center for Sustainable Development Earth Institute | Columbia University



### CONTACT NO

E-MAIL I

#### Career objective:

Seeking for a job to pursue highly rewarding career and healthy environment where I can utilize my skills and knowledge efficiently for my organization

#### Profile summary:

- · an enthusiastic fresher with highly motivated and leadership skills.
- · curiosity to learn new things.

#### Skills set:

- · Good communication skills and presentational skill.
- Ouick learner
- Time management
- Adaptability Good team worker

#### Academic qualification:

- pursuing bachelor if degree from NTR.Govt Degree College mahabubnagar
  Passed D.El.Ed.from GOVT DIET MBNR In the year 2018 with the aggregate of 88%.
- · Passed higher secondary from GOVT Girls Junior College in the year 2015 with the aggregate of 93%.
- · Passed SSC from GOVT New Town High School in the year 2013 with the aggregate of 05%



#### ABOUT ME

- MY NAME I
- I AM 21 YEARS OLD.
- I LIVE IN MAHABUBNAGAR.
- MY GOAL IS TO BECOME A LECTURER.
- I AM A QUICK LEARNER.

#### ACHIEVEMENTS:

- · Participate in the one day national seminar.
- · Received best student award in intermediate.
- · Received best student award in ssc from Urdu academy Jidda KSA. · Received best student award in ssc from Urdu academy of A.P.

#### Technical skills:

Ms-office

#### Training:

Three months training in computer, english, marketing and soft skill in the ICT WOMEN'S CENTER MBNR.

#### EXTRA -CURRICULUM ACTIVETIES:

- participate in the yuvatarangm state level elocution competition
  Participate in state level elocution competition, at SCERT.

#### HORRIES:

- READING STORY BOOKS.
- INTERACTING WITH PEOPLE.
- Travelling.

#### Personal details:

- Height : 5.5"
- · Languages known: URDU, ENGLISH AND TELUGU.
- Address

Date:

Place:



#### MY ASSETS

- I HAVE GOOD COMMUNICATION SKILL
- I HAVE ABILITY OF ADAPTABILITY.
- I HAVE LEADERSHIP SKILL.

### **MY TRAINING**

I HAD TAKEN THREE MONTHS TRAINING IN

- COMPUTER ENGLISH
- MARKETING AND
- o SOFT SKILLS
- FROM ICT WOMEN'S CENTER MAHABUBNAGAR.

### INFRASTRUCTURE FOR SUSTAINABLE DEVELOPMENT

#### Center for Sustainable Development EARTH INSTITUTE | COLUMBIA UNIVERSITY

### **Guest Speakers & Employer Relationship**

The IDBI Bank Manager Mr.Moinuddin, who is expertise in Banking Sector. He visited our center and gave awareness on online modules of Banking Sector and Money Management (Life Skills) to our ICT Trainees.





The Guest Speaker Mr.Uday Kumar from DRDA – EGMM (Employment generation & Marketing Mission) has visited our ICT Center and gave awareness on different modules of life skills, Such as public speaking & SWOT Analysis to our ICT Trainees.



The Guest Lecture Ms.Shirisha from Sri Srinivasa Consultancy has visited our ICT Center to conduct Mock interviews and even to share knowledge in specific areas where the trainees can improve their Employable skills and get more benefit.







EARTH INSTITUTE | COLUMBIA UNIVERSITY As per the Environmental Education SUSTAINABLE DEVELOPMENT in our ICT Center, we conducted the activity to our trainees in our center premises with a slogan "Think Clean..., Go Green...!" concept.



In the course evaluations, trainees were asked to suggest guest speakers. Some of the speakers the trainees mentioned were:

- Motivational speakers
- Bankers
- HR personnel
- Marketing speakers
- English speakers
- "computer officers"

as well as the program team members in Mahabubnagar and New York.

The program team will recruit additional guests speakers based on evaluation feedback and trainees' interests and needs in enhancing their skilling at the Center.





**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.

