

**Process Documentation:
Operationalizing ICT Women’s Center for
Skills Training for Employment**

Mahabubnagar, Telangana State, India

ICT India Working Paper #6

Radhika Iyengar, Haein Shin, Joaquin Aviles Lopez, and Srinivas Akula

January 2019

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Executive Summary

The process of initiating and operationalizing a concept—combining multiple Sustainable Development Goals (SDGs) to improve educational and employment opportunities for women—is outlined in this document. The result of this endeavor is a 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.

ICT WOMEN'S CENTER

CENTER OPENING PROCESS DOCUMENTATION

Mahabubnagar, Telangana State, India

January 4, 2019

Report by
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Haein Shin
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Srinivas Akula



ICT WOMEN'S CENTER

Mahabubnagar ICT Women's Center Opening in December 2018

In a short period of six months from conceptualizing to operationalizing, the ICT Women's Center of Mahabubnagar has become a reality. The [ICT Center model¹](#), devised between Dr. Radhika Iyengar of The Center for Sustainable Development (CSD) at The Earth Institute, Columbia University and Joaquin Aviles Lopez of Infrastructure for Sustainable Development (i4SD), merges renewable solar energy with social services. This Center offers education for women, targeted towards skills training for future employment.

The model became a reality in Mahabubnagar District of Telangana State with the approval of the District Collector and Magistrate (DC) Ronald Rose with guidance from Dr. Nirupam Bajpai.

The project is a field-based SDG implementation model under the study "Towards a New Indian Model of ICT-Led Growth and Development". The main leads of the study are Professor Jeffrey Sachs and Dr. Nirupam Bajpai.

As a comprehensive model including both infrastructure and education components, the execution and implementation required various inputs for infrastructure, curriculum, personnel, procurement, stakeholder engagement and training. The overall summary of the process leading to the opening of the ICT Center is outlined in this document.



GOVERNMENT APPROVAL PROCESSES



The ICT Center Model provides a great opportunity to achieve multiple Sustainable Development Goals (SDGs) at the local level. The District Government owns the project and has been a partner to brainstorm an international concept that has come to fruition in the district.

The Center for Sustainable Development research team was able to conceptualize a project that has obvious cross-sector linkages such as Gender, Education, Environment, Economic Growth and

Partnership SDGs. CSD provided the technical expertise and the District Government was able to adapt and own the project at the District.

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

D. RONALD ROSE, I.A.S.,
Collector & District Magistrate
MAHABUBNAGAR



Off Ph : 08542-242210
Fax : 08542-244136 / 254340
E-mail : collector_mbnr@telangana.gov.in

To
Dr.Nirupam Bajpayi.
Senior Advisor, Sustainable Development
Columbia University
Center for Sustainable Development
New York, U.S.A.

Dear *Nirupam*

We are delighted to partner with you on the ICT Center for Women. This collaboration with Columbia University is vital for skill development for the youth in Mahabubnagar District. We are happy to provide the space to you at no-cost to run the Center. We certainly feel that the Center will be a great asset to Mahabubnagar and will help to provide potential job opportunities to the girls graduating from the Center with adequate skills.

I look forward to providing the necessary support required to run this Center. We welcome this initiative in Mahabubnagar.

Regards


(D.Ronald Rose)

D. RONALD ROSE, I.A.S.,
Collector & District Magistrate
MAHABUBNAGAR



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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)

INFRASTRUCTURE & SOLAR

The Center building is an in-kind donation by the District Collector and Magistrate of Mahbubnagar (DC). The building 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.

After a load survey examining appliances and the size of the ICT Center, it was determined that a 10kW rooftop solar installation with batteries was the 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.



Numerous assessments and installation visits with Internet/WiFi and solar energy service providers secured all the devices being connected to the Internet and led to the finalizing of the Center power source switching from the grid to solar energy. After installation and setup of the solar infrastructure and its built-in metering system, the team is putting in place an additional smart-metering system to monitor energy usage in real time (via Wi-Fi)

and to allow ICT Center management to make decisions on allocation of excess of energy production.



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).

| 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 (i.e. 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

During the site visit along with the opening of the ICT Center, feedback from the DC further directed adjustments in curriculum to target specific key content areas. The main feedback was the need for curriculum contents to enable various skill sets for a targeted need in the local job market for handling customer complaints or effectively utilizing ICT skills for business promotion. There is also a need to train in combining various competency areas to effectively communicate a message, whether by social media or presentations or letter writing / correspondences.



DC's visit to the Center and meeting

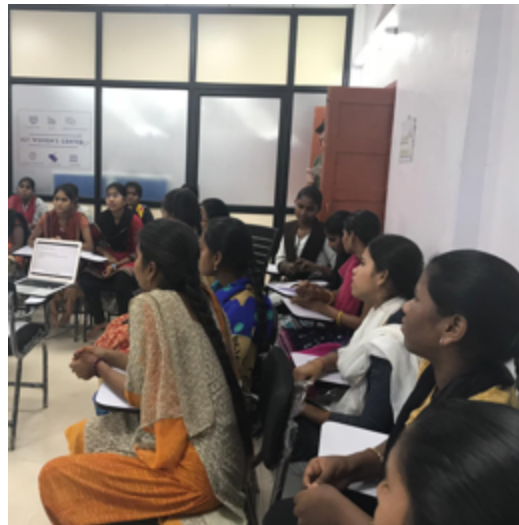


Training of ICT Center staff

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 Part 1 | Summary | Sequence | THEME | Classes / Days of the Week | ENGLISH | COMPUTER | LIFE SKILLS | BUSINESS / FINANCIAL LITERA |
|----------------|--|--------------------------------|---|----------------------------|--|--|--------------------------------|-----------------------------|
| 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 | / | |

Based on the curriculum plan, the first week of classes focused on introductions and “breaking the ice” among participants. Upon introducing the rationale for setting up ICT Women’s Center with introductions on curriculum content and program goals, the participants engaged in group activities, brainstorming activities, baseline Life Skills assessment, sharing key events in “My Life Timeline” as well as successes and helping factors in their lives.



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 will continue in the coming weeks for a duration of three months.

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 (Batch 1) 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.



Additional class offered with activities

Large group in computer lab prior to class batch division

Towards the end of the first week of Center operations, the project team was introduced to the rural development sector initiative of the District government whose role encompasses employment. To keep in mind the mission of this program which ultimately links trained young women to employment opportunities, DC and local employers and businesses have been consulted. The DC connected the project team staff to the District's employment cell

Director, who also visited the Center to share about existing government programs and to hear about the Center's operations and content areas.

The Director is open to connecting the local potential employers to the Center. The project staff requested a periodic visit by potential local employers to the Center, via the Director, to share career and employment tips with students. Additionally, if the profile and competencies of students meet the needs of the employer, the Director will encourage and facilitate the hiring process.



Additionally, few women professionals who have been either referred by the DC or linked to the project (due to solar installations and project team), will be invited to the Center to lead some sessions aligned to Center's curriculum. This will include conversations on marketing, banking, entrepreneurship and wellness (hygiene, health, nutrition).

Further, a marketing professor who has led life skills trainings will join as a guest speaker to teach students specifically on marketing and business skills.

An added collaboration in Center operations may be the involvement of students from the **District Institute for Education and Training (DIET)**. The initial discussions with DIET leadership and professors 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, starting in January/February, the ICT Center can be used on Sundays for the DIET students to come and learn the basics of PowerPoint as well as to practice and create their required presentations.

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. Based on this draft, a follow-up conversation will be held in January / February 2019.

PROCUREMENT & MATERIALS

From larger items such as printers to small items like pens and paper, the materials required to run the Center was completed in multiple rounds and there are pending needs which will be delivered to the Center as operation continues.

The inventory documentation (see sample below), which will be used as a part of the weekly reporting, was first used as materials arrived to the Center.

| Center for Sustainable Development EARTH INSTITUTE COLUMBIA UNIVERSITY | | | | |
|--|-----------------------------------|----------|---------------|---|
| MAHBUBNAGAR ICT CENTER | | | | |
| INVENTORY LOG | | | | |
| WEEKLY REPORTING | | | | |
| Examples to include on this form: computer, desk, chairs, board, solar panels, lighting poles, adapters/batteries, surget protectors, extension chords, projectors, etc. | | | | |
| # | Item | Quantity | Delivered On: | Installed By: Monday |
| | example. Computer/Laptop Model #. | | Date | Name & Contact Date |
| 1 | Computers | 10 | 4th Dec 2018 | Laptop stores person Include count for the day. Note any issues with item or changes in count. |
| 2 | Projector | 1 | 4th Dec 2018 | NA |
| 3 | Printers | 2 | 4th Dec 2018 | NA |
| 4 | Classroom chairs | 30 | 26th Nov 2018 | |
| 5 | Lab chairs | 14 | 26th Nov 2018 | |
| 6 | Desk | 14 | 29th Nov 2018 | Yashwant & Swami |
| 7 | Solar panels | 32 | 29th Nov 2018 | Shekhar |
| 8 | Lighting poles | 2 | | Shekhar |
| 9 | Batteries | 4 | | Shekhar |
| 10 | invertors | 2 | | Shekhar |
| 11 | Boards | | NA | |

Additionally, the first week of operations revealed other capital investments needed for the Center and these items will be communicated to the DC's office. The remaining items include additional desktops (5), air conditioner/table fans, laptop for Center management, speakers for desktop computers and security cameras.



NEXT STEPS

The official launch of the Center is scheduled for the end of January 2019, when various government officials and leadership may be available to attend with guidance from DC's office.

The follow-ups and maintenance of the Center is ongoing daily with local and New York-based project teams. The Center operations for the first cohort of participants for the three months since Center opening, will shed more light on further adjustments or needs to more smoothly run the Center in the long-run, as well as considerations for sustainability of the Center and its programs.