



# SolarSPELL 2017 Annual Impact Report





# SolarSPELL Digital Libraries

SolarSPELL (Solar Powered Education Learning Library) is an easy to use, solar-powered, offline digital library that is designed to simulate an online experience. SolarSPELL generates a Wi-Fi hotspot, to which any Wi-Fi capable device (smartphones, tablets, or laptops) can connect, enabling students and teachers to surf the library's educational content. All of the educational content can be downloaded directly onto individuals' personal devices, for use when no longer accessing the SolarSPELL server. SolarSPELL users are then able to begin curating their own individualized digital libraries, and to access or share those materials at any time, with anyone. In this capacity, SolarSPELL empowers resource-constrained communities by providing unprecedented access to educational resources, without requiring access to electricity or the Internet.



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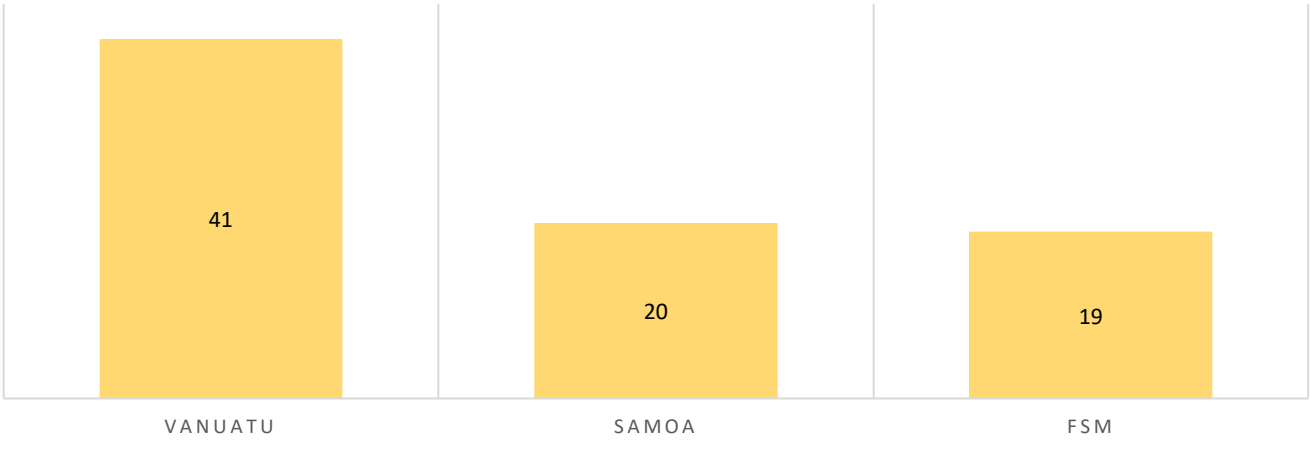
Our goal is to provide relevant, localized educational content to resource-constrained locations around the world.

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# 2017 Highlights



# OF SOLARSPELLS DEPLOYED IN 2017



250

SolarSPELL units built

100

Volunteers and local teachers trained

40

ASU Students involved

# SolarSPELL Model

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## Train-the-trainer

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SolarSPELL employs a train-the-trainer model, in which the SolarSPELL team travels to implementation sites and trains Peace Corps Volunteers on how to use and access the digital library. Peace Corps Volunteers remain on-site for two years and can continue to transition these skills to local community members, who will gain the confidence to share the knowledge with additional members of the community. This approach maximizes the potential for SolarSPELL users to not only receive a SolarSPELL, but to further integrate the digital libraries into their communities for lasting use.



## Partnering with local organizations

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SolarSPELL is dedicated to empowering communities with unprecedented access to up-to-date educational content, that is individually tailored to include locally relevant topics for each region. To achieve this objective, SolarSPELL harnesses the power of several development-minded organizations. In 2017, SolarSPELL collaborated with the U.S. Peace Corps, and built new partnerships with Bridge 2 Rwanda, the Rwanda Education Board, Empower Kids South Sudan, Africa Educational Trust, and Tonto Creek Camp, for projects to come in 2018.

## Student Involvement

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Students are engaged in each phase of the SolarSPELL project, both at ASU and abroad in implementation sites. The project is a comprehensive educational experience that simultaneously teaches ASU students, while these students assist in providing educational content to students and communities in implementation sites. Through this design, SolarSPELL facilitates the development of cultural competency in ASU students, and fosters global citizens that are poised to craft tangible solutions to pressing development challenges.



# Impact on Capacity Building

SolarSPELL's train-the-trainer model empowers individuals to confidently transition from being the learners, to the teachers, for new SolarSPELL users. This sustainable model has the power to facilitate inter-generational learning, while simultaneously introducing new skill sets to previously disconnected populations. Communities in resource-constrained locations often have had limited exposure to technology, such as ICTs or the Internet. SolarSPELL digital library users develop technological literacy, information literacy, and Internet-ready skills, which can lead to capacity building on both an individual and community-wide level.



**SolarSPELL trains  
implementation  
partners**



**Implementation  
partners train local  
community members**



**Local communities  
continue to train new  
SolarSPELL users**

**“They don’t have much access to traditional forms of technology. The SolarSPELL makes that accessible for them and it’s a similar resource that you can access on a computer, but it’s much more effective here because it’s so small, portable and compact.”**

**- Peace Corps Volunteer**

**“[SolarSPELL] is a good way to ease into the World Wide Web, because it’s a soft way to practice the skills to use technology... it’s a good transition.”**

**- Peace Corps Volunteer**

# SolarSPELL in the Pacific Islands

## Environmental Challenges

Communities in the Pacific Islands face unique environmental factors, in addition to unreliable access to the Internet and electricity. Year-round heavy rain, high humidity, and cyclone seasons present significant challenges to maintaining the quality of print materials and resources. Many primary schools do not have a library, and the educational resources that exist in classrooms are often unbound resources that are not stacked or systematically organized. These realities limit the ability of teachers and students to find the resources they seek, in a timely manner, and in a high-quality condition.



**“There are 32 boxes of books that just are sitting there, and they’ve been there for 3 years. A good amount of them are rotting because of the cyclones.”**

**- Peace Corps Volunteer, Vanuatu**

## SolarSPELL in the Field

SolarSPELL digital libraries address the infrastructural and environmental barriers that affect schools in the Pacific Islands through the waterproof, compact design. SolarSPELL libraries have been deployed to Peace Corps Volunteers serving in education and health sectors, across Vanuatu, Tonga, Samoa, and the Federated States of Micronesia. In 2017, the SolarSPELL team was delighted to begin bringing an updated Pacific Islands library to these locations, which featured a new content category: health care information. Initial findings have shown that Peace Corps Volunteers are already making significant use of the health care content and are able to share critical health care education with their communities.

100

Peace Corps Volunteers  
and local teachers trained  
in the use of SolarSPELL

80

Digital Libraries Deployed  
in 2017

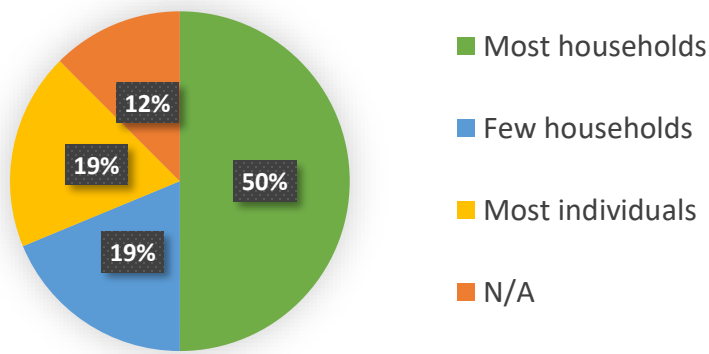
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Implementation Countries

pg. 5

# Vanuatu: In-Field Evaluation Findings

## Prevalency of ICT devices in the community



\* Chart demonstrates the prevalency of devices that could connect to a SolarSPELL library.

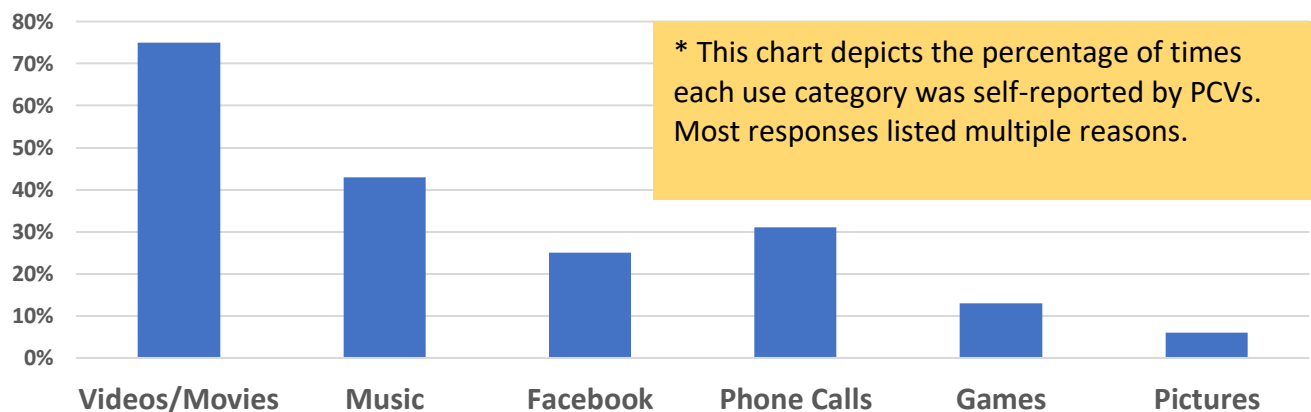
94%

Of PCVs reported *not* having reliable access to the Internet

81%

Of PCVs reported *not* having reliable access to electricity

## Most common uses of ICTs in Vanuatu



\* This chart depicts the percentage of times each use category was self-reported by PCVs. Most responses listed multiple reasons.

81%

Of PCVs reported the SolarSPELL did increase their confidence in their work performance

SolarSPELL maximizes the potential of devices already in the field, that are being underutilized for educational purposes, by introducing this innovative solution. The findings of this study demonstrate that although Wi-Fi capable devices have reached resource-constrained regions, the continued lack of reliable Internet and electricity has limited the use of these technologies. SolarSPELL digital libraries expand the usability of these devices, moving beyond merely being an instrument for entertainment, toward providing access to high-quality educational materials.



# Stories from the Field:

Peace Corps Volunteer, Nancy, shares her experience:

“Early in my service, two teenaged girls who were home on school break came to me needing help with a research assignment. There were no books or reference materials of any kind in the village to help us with their assignment. A week later, I was on the other side of the island at a school telling another volunteer of our limited resources. She immediately offered their SolarSPELL kit to me.

When I first got to my village and there were absolutely no materials to work with, other than what I carried in myself, I was at a loss at times. Once we had the SolarSPELL library, I had some resources. I'd like to thank you for developing the SolarSPELL and for working to get it to remote places such as my village.”



**“The teachers use it ALL the time. I focus on English, but the other teachers use it for science, they use it for math. I like that it has a diverse amount of information.”**

**- Peace Corps Volunteer**



“We used [SolarSPELL] for some of our parent nights at school. We invite parents to see what students are learning and teach them how to help their students. The teachers were really excited to use the SolarSPELL to get some of the resources, so they felt like they were better equipped to teach the parents.”

- Peace Corps Volunteer



# ASU Partnerships

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**School for the Future of  
Innovation in Society**



**Education for Humanity**



**Ira A. Fulton Schools of  
Engineering**



**ASU Libraries**



**Barrett, the Honors College at  
Arizona State University**



**GlobalResolve**



**College of Nursing and Health  
Innovation**



**Next Generation Service Corps-  
Public Service Academy**



**Julie Ann Wrigley Global  
Institute of Sustainability**



**University Technology Offices**



**Keen Professorship-  
Entrepreneurship + Innovation**



**ASU Prep Academy**

# External Partnerships

Throughout 2017, SolarSPELL collaborated with:



SolarSPELL developed new partnerships with:





# Get involved in our Journey!

The SolarSPELL team is grateful to the donors, collaborators, and communities involved in this year's projects. With new partnerships and implementation sites on the horizon, SolarSPELL is eager to see what we can accomplish together in 2018!



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