**Synthesis Report for Understanding the Corpus Christi Educational Ecosystem: Promoting a Culture of STEM + A/D**

In partnership with NSF-funded Research Coordination Network on Climate, Energy, Environment and Engagement in Semiarid Regions (RCN CE3SAR), Texas A&M University - Corpus Christi held a charette on Nov 22, 2013. The goal of this charette was to initiate the planning process for creating a STEM + A/D culture in Corpus Christi that leads to a measurable increase in the number of graduates in these disciplines over the next decade.

The charrette was led by Jorge Vanegas, Dean of Texas A&M University-College Station College of Architecture, and Luis Cifuentes, Vice President for Research, Commercialization and Outreach at Texas A&M University-Corpus Christi. Taking part were 47 representatives from education institutions, area arts organizations, environmental agencies, civic groups, and regional businesses.

Participants discussed promoting a culture of STEM+A/D from different perspectives, including as parents, students, educators, managers, business men, community members, and more. They attended this charette because they were interested in promoting STEM+A/D awareness and community involvement, and expected to develop an operational plan to create a sustainable Educational Ecosystem in Corpus Christi (EECC).

Although participants acknowledged the complexity of EECC, they really hope to create an innovative education system through the collaboration of higher education institutions, stakeholders, communities, businesses, informal learning institutions such as museums and parks, and independent school districts. The strengths that may result from the potential application of the concept of an EECC include a regional focus and a bilingual community. Promoting the culture of STEM+A/D may lead to a new way for students to achieve success. A weakness of this approach may be the lack of education regarding the concept of EECC and individual apathy.

Participants identified general key elements of EECC as student engagement, educator buy-in, family involvement, industry investment, and community support, which may be presented in visible ways such as incorporating media, outreach to students using all available resources, and improving STEM+A/D training. Participants raised a lot of questions that focus on “what does a successful outcome look like?”, “what has been done?”, and “where should we start?” They recognized there is a need to make STEM+A/D visible in the community and were encouraged by the vision of improving the quality of life in Corpus Christi via EECC.

Following the charrette programming, participants returned positive feedback about the process (n=27, m=9.2\*). They liked the environment of open discussion as well as the EECC concept and vision. Some participants also expressed concern about what EECC has to do with STEM+A/D and how they as individuals or organizations might fit into EECC.

As a result of the charrette, participants proposed the following six initial strategic goals and developed a plan of action to achieve these goals in 3 years. The operations to achieve these goals are illustrated in Figure 1.

* Develop a methodology for extracting best practices and adapting to local context needs.
* Increase public interest and trust
* Establish partnerships
* Community buy-in to the value of STEM+AD evaluation
* Increase family involvement and commitment
* Create an index of resources that can be applied to STEM+A/D

**Strategic goals of promoting a culture of STEM+A/D**

**Visibility + Outreach + Partnership**

**Media**

TV

Radio

News

YouTube

Facebook Twitter

**Activities/events**

Summer camp

Workshop

Internship

STEM+A/D fair

STEM travelling bus

**Leader, staff, time, money**

**Physical Space**

Maker space

STEM+A/D space

STEM center

**Collaboration**

Communication

Email

Visiting

Invitation

Phone

Online meeting

Survey

Focus group

**Website**

Awareness

Trust

Best practices

Access portal

**Wiki Repository**

Resources

Data

support

achieve

achieve

Figure 1. Operations to promote a culture of STEM+A/D

\*n is the number of participants who gave grades, and m is the mean of grades