GLOBE and Sustainable Development Goals

Global Education for Sustainable Development

By the US GLOBE Partner in Massachusetts
Global STEM Education Center, Inc

https://www.globe.gov/web/global_stem_education_center
www.globalstemcenter.org

November 19, 2020
Introduction – a few words about my journey

Fellow, Education Policy and Research

Harvard Global Education “Think Tank”

Mountain Climbing

Climbing on Mount Kazbek - 16,512’

CEO, Center for Global STEM Education, Inc. Non-profit 501 (c) (3)

Director, Center for Diversity & Leadership in STEM

Training & Education Senior Specialist College Relations Manager

Diplomacy 2.0

B.S. Petroleum Engineering, M.S. Petroleum Engineering M.S. Computer Science
“Sustainability is the ability to exist constantly. In the 21st century, it refers generally to the capacity for the biosphere and human civilization to co-exist.”

“Achieving sustainability will enable the Earth to continue supporting life.”

“Sustainability has become of the defining features of the 21st century reality”; “Sustainability is an emergent feature of the whole systems.” “It’s not so much about the parts as how the parts work together to enable effective overall outcome....”

“Relationship between a whole system and its environment that it can not be achieved through optimizing individual parts, but instead requires us to look at how whole systems work how all the parts are interrelated...to enable sustainable results.”

* https://en.wikipedia.org/wiki/Sustainability

** Sustainability Documentary (Systems Innovations Channel, Youtube.com) https://www.youtube.com/watch?v=rbjPIem35gj

Image Credit: NASA
GLOBE Diversity, Equity and Inclusion
SDGs Goal #4 and Goal #5

• “Our mission is to empower learners around the world as diverse individuals and promote scientific inquiry, literacy, and action with cultural awareness. We will strive to understand and appreciate the interdependence of humanity, cultures, and the natural environment and promote accountability based on our core values. GLOBE will foster collaborations among diverse individuals and institutions to build and sustain a diverse, just, equitable, and inclusive program”.

**Goal #4** Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
**Goal #5** Achieve gender equality and empower all women and girls
GLOBE and SDG Goal #6 Clean Water and Sanitation
Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

NASA scientists study trees from space using satellites like ICESat-2, which measures forests using lasers. Your tree height and circumference measurements can help scientists understand how carbon moves through ecosystems.
Data collection of soil temperature, moisture, and physical and chemical properties is invaluable to scientists in many fields.
GLOBE Atmosphere and SDGs Goals #3, #11, #12
GLOBE Mosquito Habitat Mapper and SDG Goal #3*

SDG #3: For mosquito disease where there is no vaccine, there are three ways to protect a community: education, surveillance, and breeding site elimination. The app does all three!

(* see full PPT by Dr. Rusty Low on this topic presented at GLOBE LAC on November 19, 2020)
GLOBE and SDG Goal #17
Partnership for the Sustainable Development Goals
GLOBE partnerships around the world
GLOBE Partnerships: Supported by Science; Driven by Data
NASA and the United Nations Environmental Programme (UNEP) are pleased to announce an agreement to work together on the promotion and implementation of GLOBE and UNEP activities.

- environmental education and training
- collection and distribution of environmental data.
- share education and training resources
- Broaden awareness of SDGs and GLOBE Program

“NASA is pleased to partner with UNEP to enhance environmental education and training and to open up new prospects for the collection and use of environmental data,” Dr. Allison Leidner

(* see full PPT by Dr. Rusty D. Low on this topic presented at GLOBE LAC on November 19, 2020)
This is a GLOBAL problem

https://climate.nasa.gov/

“Scientific evidence for warming of the climate system is unequivocal.”

- Intergovernmental Panel on Climate Change
“A framework of indicators and statistical data to monitor progress, inform policy and ensure accountability of all stakeholders.”

The global indicator framework for Sustainable Development Goals was developed by the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs) and agreed upon at the 48th session of the United Nations Statistical Commission held in March 2017.

“A robust follow-up and review mechanism for the implementation of the 2030 Agenda for Sustainable Development requires a solid framework of indicators and statistical data to monitor progress, inform policy and ensure accountability of all stakeholders. The global indicator framework was adopted by the General Assembly on 6 July 2017 and is contained in the Resolution adopted by the General Assembly on Work of the Statistical Commission pertaining to the 2030 Agenda for Sustainable Development”

Work of the Statistical Commission pertaining to the 2030 Agenda for Sustainable Development https://undocs.org/A/RES/71/313

https://unstats.un.org/sdgs/indicators/indicators-list/
GLOBE scientific data, SDGs Indicators and GLOBE Project – based learning (PBL)

SDG Indicators

Global indicator framework for the Sustainable Development Goals and targets of the 2030 Agenda for Sustainable Development

The global indicator framework for Sustainable Development Goals was developed by the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs) and agreed upon at the 48th session of the United Nations Statistical Commission held in March 2017.
Data Science For Educators, Big Data, Data Analytics, Artificial Intelligence

- Artificial Intelligence/Machine Learning
- BIG Data, Data analytics
- “Deep Learning”
How can we make sure our data is trustworthy?


Data governance for monitoring the SDGs
Skills for successful global collaboration

• Cross-cultural communication skills
• Excellent networking abilities
• Collaboration
• Teamwork and cooperation
• Interpersonal influence
• Adaptive thinking
• Emotional intelligence
• Resilience
• Leadership and responsibility
• Assertive communication
• Cultural Intelligence
• Trust and an ability to build and maintain trustful relationships
Global Competency, Intercultural Communication Skills, Teamwork skills for building strong partnerships (PD for teachers)
THANK YOU! GRACIAS!

From the US GLOBE Partner in Massachusetts
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Work Cited

- SDGs Partnership Accelerator  [https://sustainabledevelopment.un.org/PartnershipAccelerator](https://sustainabledevelopment.un.org/PartnershipAccelerator)
- UN Partnership Platforms for the SDGs  [https://sustainabledevelopment.un.org/content/documents/2699Platforms_for_Partnership_Report_v0.92.pdf](https://sustainabledevelopment.un.org/content/documents/2699Platforms_for_Partnership_Report_v0.92.pdf)
- Sustainability Documentary (Systems Innovations Channel, Youtube.com)  [https://www.youtube.com/watch?v=bjrPilem30g](https://www.youtube.com/watch?v=bjrPilem30g)
- SDG Interlinkages Analysis & Visualization Tool (V3.0)  [https://sdginterlinkages.iges.jp/publications.html](https://sdginterlinkages.iges.jp/publications.html)
- Dr. Hofstede “National Culture”  [https://hi.hofstede-insights.com/national-culture](https://hi.hofstede-insights.com/national-culture)
- Dr. Pellerin “How NASA Build Teams”  [https://amzn.to/2IQn4BP](https://amzn.to/2IQn4BP)
- GLOBE developed a chart aligning GLOBE protocols to SDGs: