Increasing Resilience Through Improved On-Farm Storage

Speakers

Dr. Clara Cohen, *USAID Bureau for Food Security*

Dr. T. Grady Roberts, *University of Florida*

Dr. Wayne Ganpat, *University of the West Indies*

Mr. Seth Heinert, *Indigenous Education Foundation of Tanzania*

Facilitator

Laura Ostenso, Feed the Future Knowledge Driven Agricultural Development project

February 17, 2016

Clara Cohen

Clara Cohen serves as senior science policy adviser with USAID's Bureau for Food Security, Office of Agricultural Research and Policy. She leads Office activities focusing on human and institutional capacity development and has contributed to the design and launch of several new programs emphasizing research and education system strengthening. She has conducted research on leguminous cover crops at the Rodale Institute Research Center and served as a Peace Corps aquaculture volunteer in Guatemala. She holds a BA in biology from Swarthmore College and a PhD in plant physiology, with minors in molecular biology and soil science, from Cornell University.

T. Grady Roberts

T. Grady Roberts is a Professor in the Department of Agricultural Education and Communications at the University of Florida. He serves as the Executive Director for the Global Education Lab of the University of Florida as well as its Director of Educational Activities. The University of Florida is a consortium partner of the USAID-funded Feed the Future project, Innovations for Agricultural Training and Education (InnovATE), and Dr. Roberts is an InnovATE contributor. Dr. Roberts' research interests include global education, experiential learning, and teaching and learning in university settings. He received his B.S., MAg. and PhD in Agriculture Education from the University of Florida.

Wayne Ganpat

Wayne Ganpat is the Head of the Department of Agriculture and Economics and a Senior Lecturer in Agricultural Extension and Communications at the University of the West Indies (UWI), St Augustine, Trinidad and Tobago. Dr. Ganpat has vast experience linking academics with industry-relevant outcomes and competencies. Prior to joining the UWI, he worked as an Extension Officer in the government extension service for over 20 years and left as the Deputy Director of Extension Services. He has worked as a consultant for governments in most Caribbean countries over the last 20 years doing work both in extension and communications. He earned a BSc., MSc., and PhD in Agricultural Extension from UWI.

Seth Heinert

Seth Heinert sits on the board of directors for the Indigenous Education Foundation of Tanzania (IEFT) where he works primarily as the liaison to the IEFT Youth Board and Youth Network. He began his professional relationship with IEFT as an agriculture and biology teacher and school administrator at the Orkeeswa Secondary School in rural Tanzania. Mr. Heinert is currently a PhD candidate at the University of Florida in the Department of Agricultural Education and Communication. His research focus is on human capacity development through systems of agriculture education and training.

Strengthening Agricultural Education and Training Systems through Building Linkages

Dr. Grady Roberts

University of Florida

Why look at the whole system?

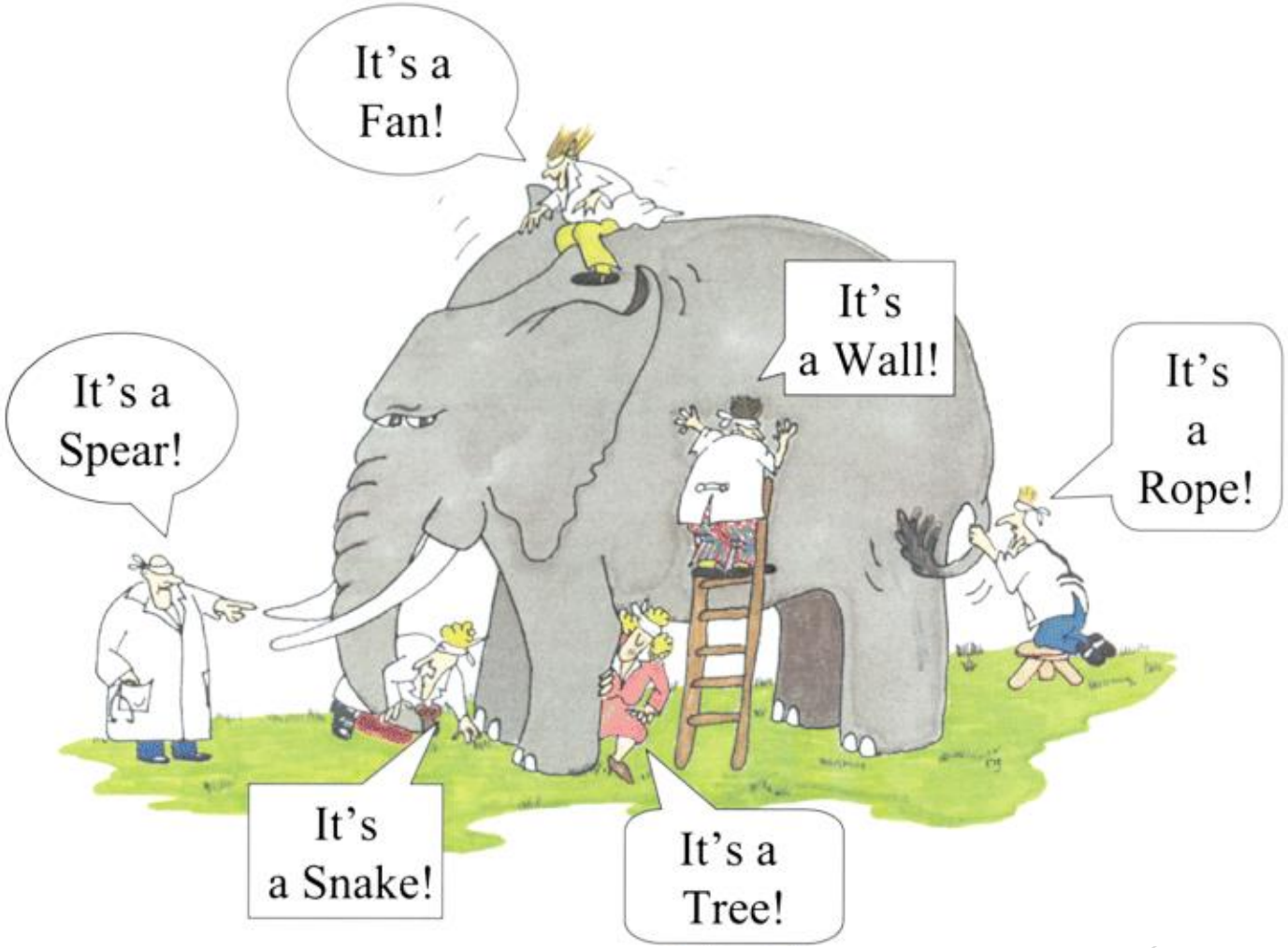


Image Source: http://www.nature.com/ki/journal/v62/n5/images/4493262f1b.gif

Everyone’s an expert?

Apprenticeship of observation (Darling-Hammond)

- K-12 – 13 years
- BS – 4 years
- MS – 2 years
- PhD – 3-4 years
- Professional Degree– 3-6 years

Overview

AET is a System with many interconnected components (internal and external)

Linkages

1. Theoretical and practical instruction
2. AET and industry
3. AET at different levels
4. AET at different types of institutions
5. AET and extension

Addressing only one piece of the system may not yield desired results.

Systems Thinking

- "Sets of elements standing in interrelation."
  - von Bertalanffy (1968)
- Complex systems have many interdependent components that influence each other.
  - Changes to one part of the system impacts other parts of the system.
- Interconnectedness

Systems Thinking—
A Biological Example

Human Body

- Skeletal
- Nervous
- Muscular
- Cardiovascular
- Digestive
- Respiratory
- Endocrine

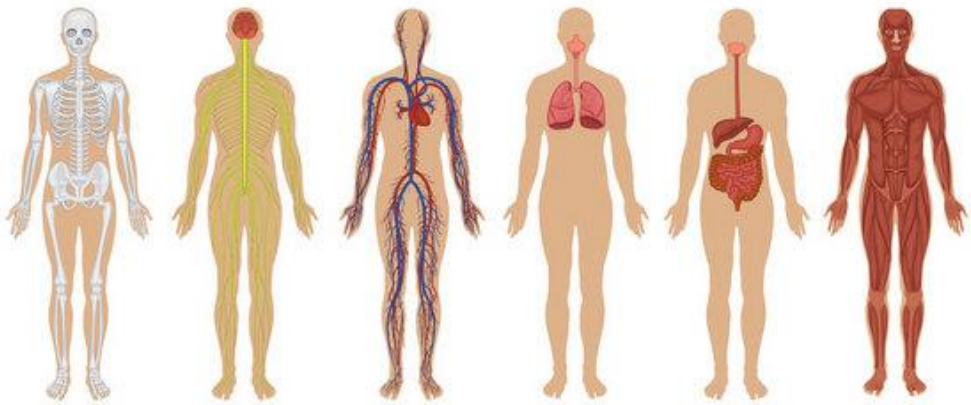


Image Source: http://www.livescience.com/37009-human-body.html

AET System

Formal Education Institutions

- Primary
- Secondary
- Tertiary/Post-secondary
- University/Higher Education

Nonformal Education Institutions

- Extension
- NGOs

The System

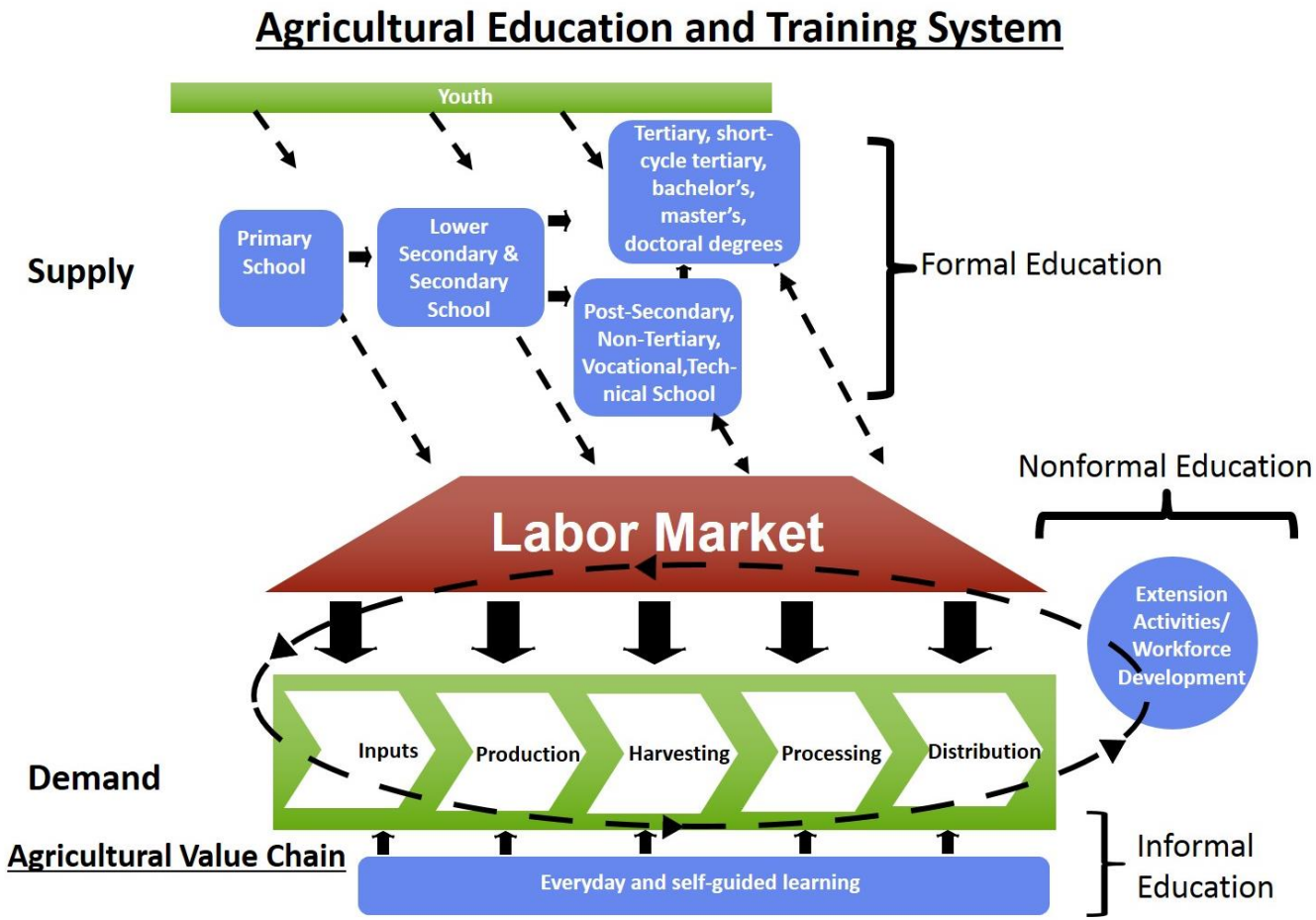


Image source: InnovATE

Linkage #1 – Theory and Practice

- Classroom instruction—theoretical
- Laboratory and field instruction—practical and hands-on

Linkage #1 – Theory and Practice

Facilities

- Laboratories
- Greenhouses
- Fields
- Food Processing
- Mechanization
- Barns
- Etc.

EARTH University, Image Source: G. Roberts

Considerations: Initial construction, maintenance, modernization, and upkeep

Linkage #1 – Theory and Practice

Personnel

- Instructional staff
- Management staff

Considerations: staff professional development for technical skills and pedagogy

Gender: will male and female staff/students have same opportunities in practical experiences?

Linkage #1 – Theory and Practice

Coordination

- Curriculum
- Within institution: Instructional personnel—classroom and lab
- Beyond institution: Instructional personnel and field experience coordinators
- Agricultural production cycles

Considerations: professional development, curricula reform

Linkage #1 – Theory and Practice

- Mr. Heinert's experiences at the Orkeeswsa School in Tanzania

Discussion

- What examples have you all seen about linking theory and practice?

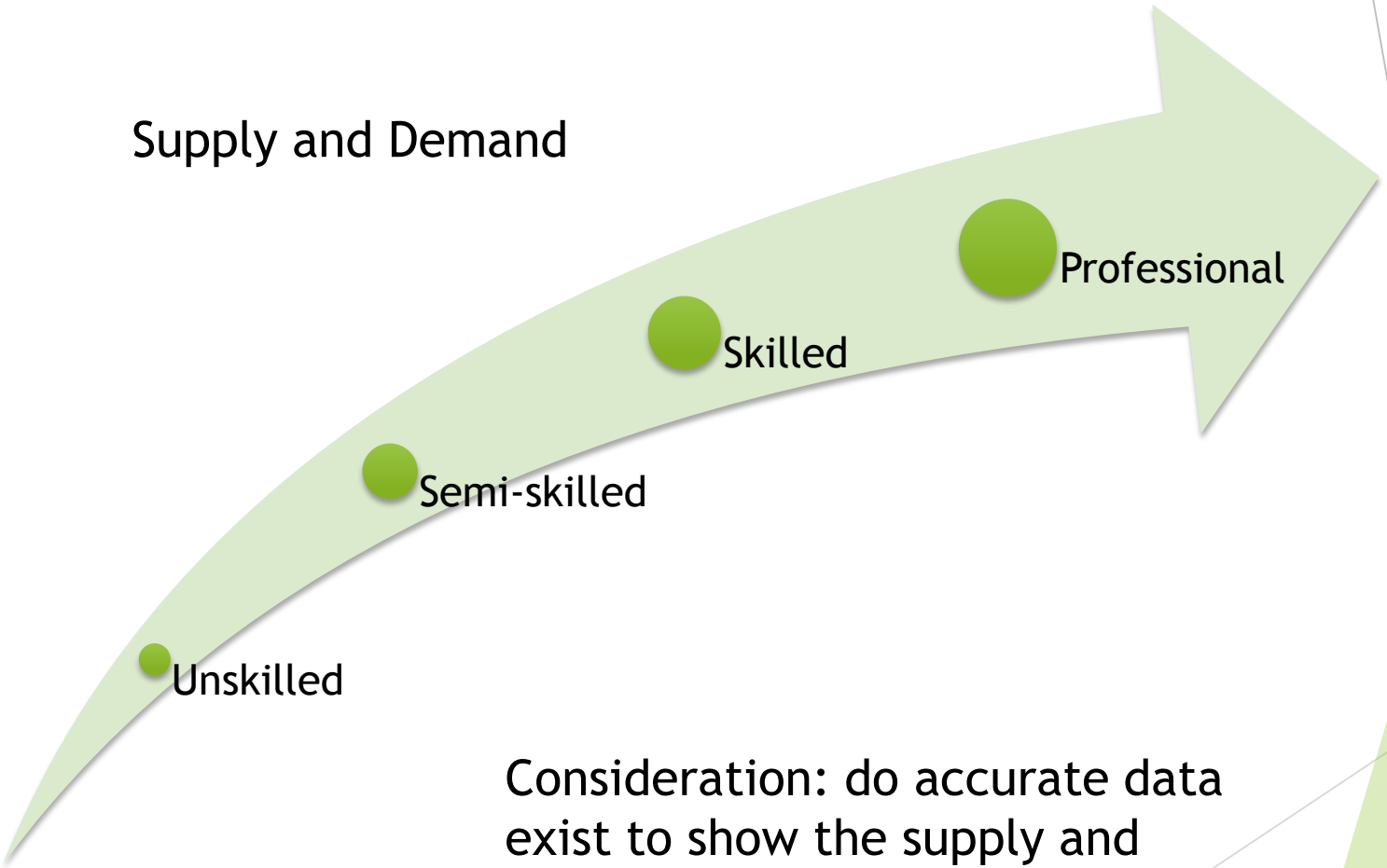
Linkage #2 – AET and Industry

Assumption: Career/vocational education should be designed to meet workforce needs.

- Supply and Demand
- Curriculum Relevance
- Field Experiences and Internships

Linkage #2 – AET and Industry

Supply and Demand



Consideration: do accurate data exist to show the supply and demand?

Linkage #2 – AET and Industry

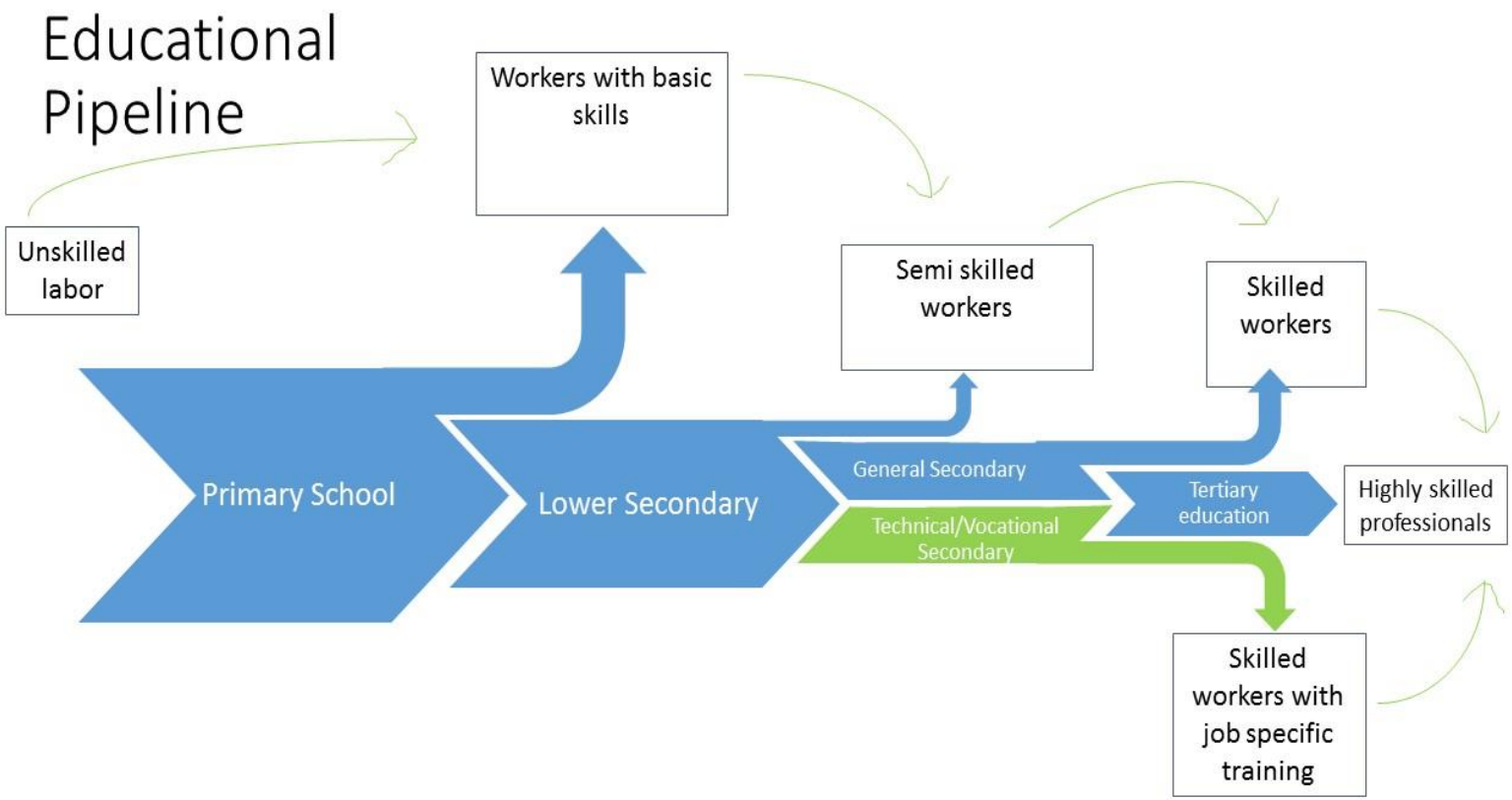


Image Source: InnovATE

Linkage #2 – AET and Industry

Curriculum Relevance

Consideration:
Has anyone mapped the career pathways in the country?

Image Source: https://www.ffa.org/thecouncil/afnr

Linkage #2 – AET and Industry

Curriculum Relevance

- Advisory committees
- Periodic re-examination of curriculum
- Professional development for instructional staff

Consideration: administrative and bureaucratic processes for curricula reform

Linkage #2 – AET and Industry

Field Experiences and Internships

- Short term and long term experiences
- Instructional staff interact with industry representatives and vice versa
- Students are more career-ready

Considerations: building relationships and expectations

Gender: does gender impact the types of acceptable jobs within a culture?

Linkage #2 – AET and Industry

- Dr. Ganpat's experiences at the University of the West Indies in Trinidad and Tobago

Discussion

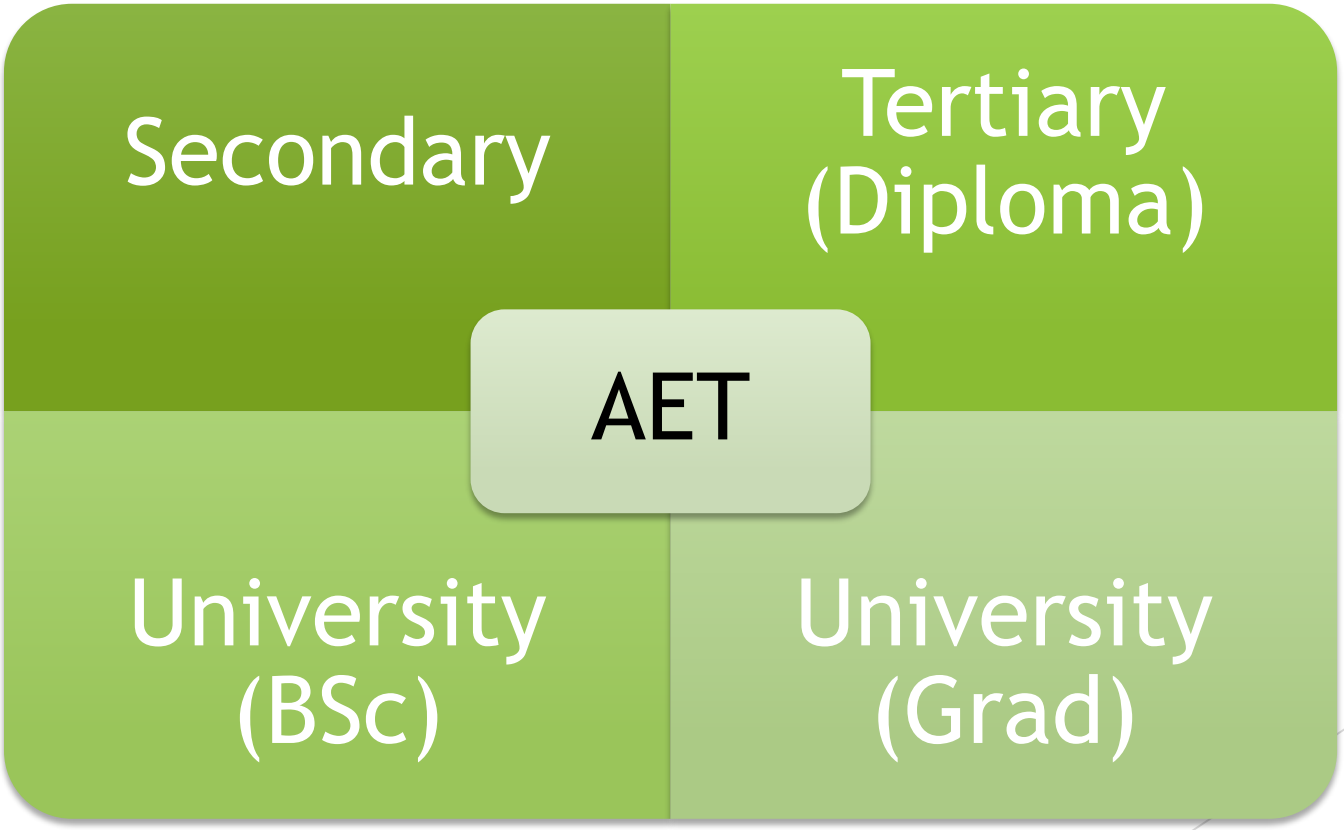
- What examples have you all seen about linking AET and industry?

Linkage #3 - AET Levels

UNESCO Education Levels

- Level 1 – primary
- Level 2 – lower secondary
- Level 3 – secondary
- Level 4 – post-secondary (non-tertiary)
- Level 5 – short cycle tertiary
- Level 6 – bachelor’s or equivalent
- Level 7 – master’s or equivalent
- Level 8 – doctoral or equivalent.

Linkage #3 - AET Levels



Linkage #3 - AET Levels

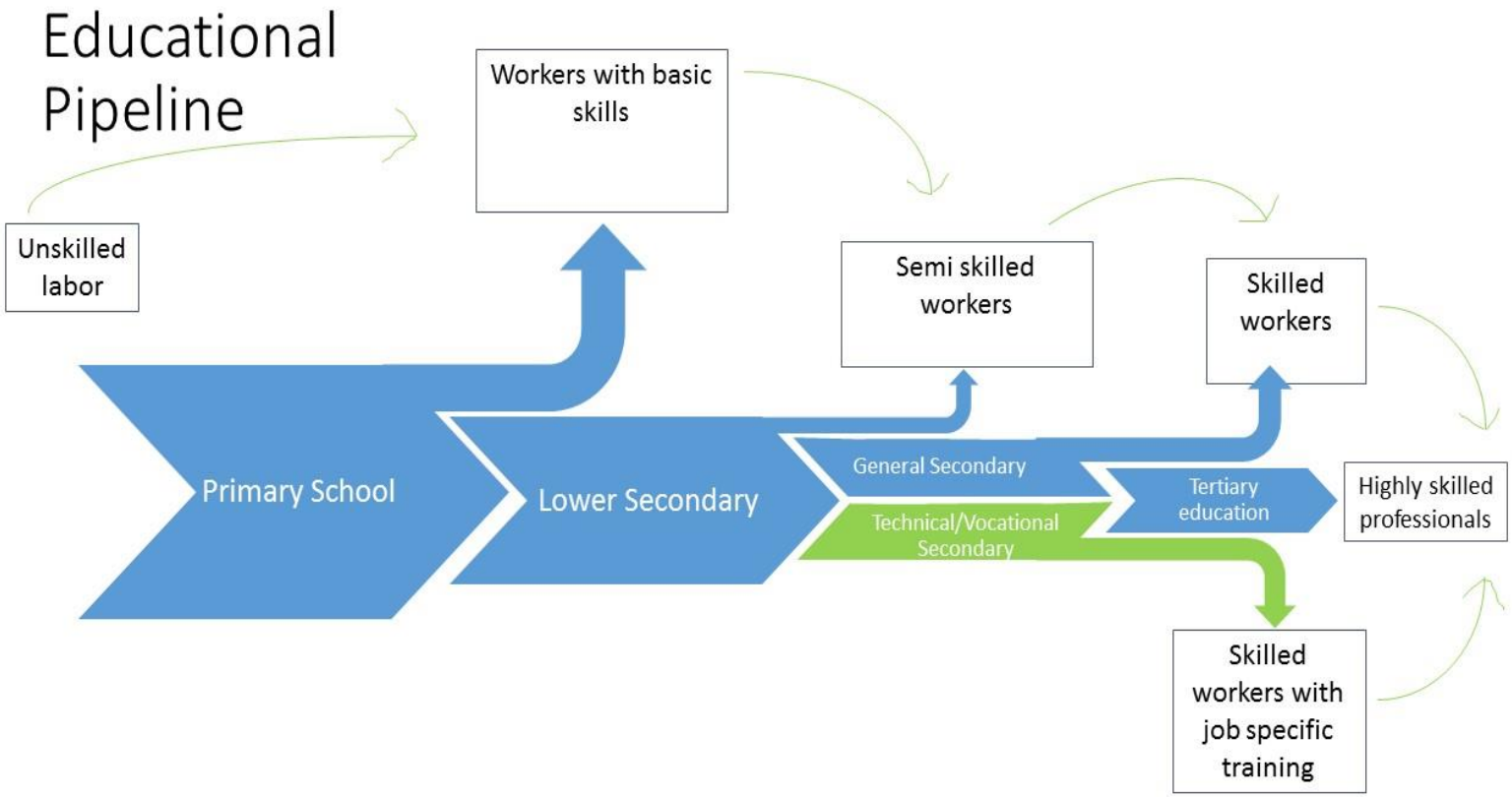


Image Source: InnovATE

Linkage #3 - AET Levels

- Matriculation of students
- Curriculum alignment
- Instructional staff preparation

Considerations: formal vs. informal interactions; multiple ministries

Gender: do males and females have same access?

Linkage #3 - AET Levels

- Mr. Heinert's experiences at the Orkeeswsa School in Tanzania

Discussion

- What examples have you all seen about linking AET institutions at different levels?

Linkage #4 – Types of AET Institutions

- Government
- Private
- Parochial
- NGO
- Other?

San Francisco School, Paraguay
Image Source: G. Roberts

- Instruction in native language or other language?

Linkage #4 – Types of AET Institutions

- Curriculum comparisons
  - Required to follow the same government curriculum?
- Synergy or overlap in programs?
- Quality (or perceptions of quality)

Considerations: creating opportunities for interactions

Gender: do males and females have the same access?

Linkage #4 – Types of AET Institutions

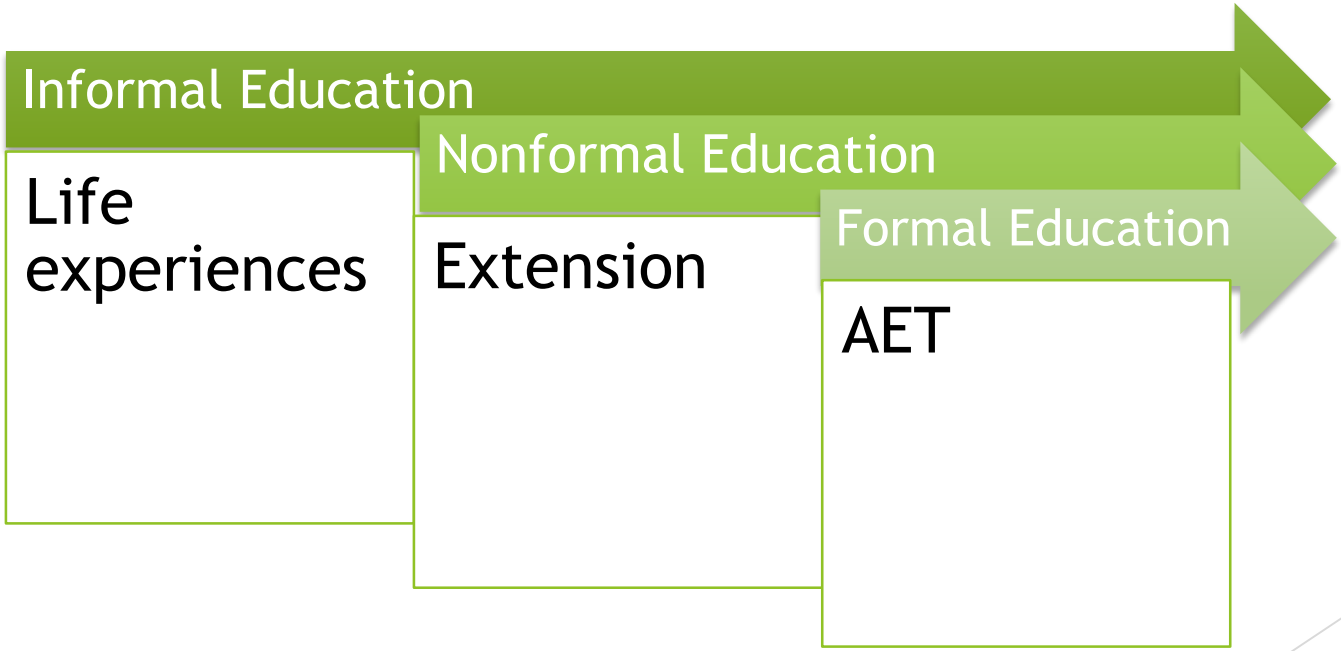
- Dr. Ganpat's experiences at the University of the West Indies in Trinidad and Tobago

Discussion

- What examples have you all seen about linking different types of AET institutions?

Linkage #5 – AET and Extension

A personal pathway to career success



Linkage #5 – AET and Extension

- Extension types
  - Government
  - Private
  - Pluralistic
- Government
  - AET – Ministry of Education
  - Extension – Ministry of Ag
- Extension employees – AET graduates?

Linkage #5 – AET and Extension

- Recurring extension programs (topics) – a signal for curriculum reform in AET?
- Research and extension

Considerations: co-location of facilities; field experiences for students; understanding of workforce needs

Gender: do males and females have defined roles in AET and extension?

Linkage #5 – AET and Extension

- Dr. Ganpat's experiences at the University of the West Indies in Trinidad and Tobago

Discussion

- What examples have you all seen about linking AET and extension?

Summary

AET is a System with many interconnected components (internal and external)

Linkages

1. Theoretical and practical instruction
2. AET and industry
3. AET at different levels
4. AET at different types of institutions
5. AET and extension

Addressing only one piece of the system may not yield desired results.

Implications for Donors

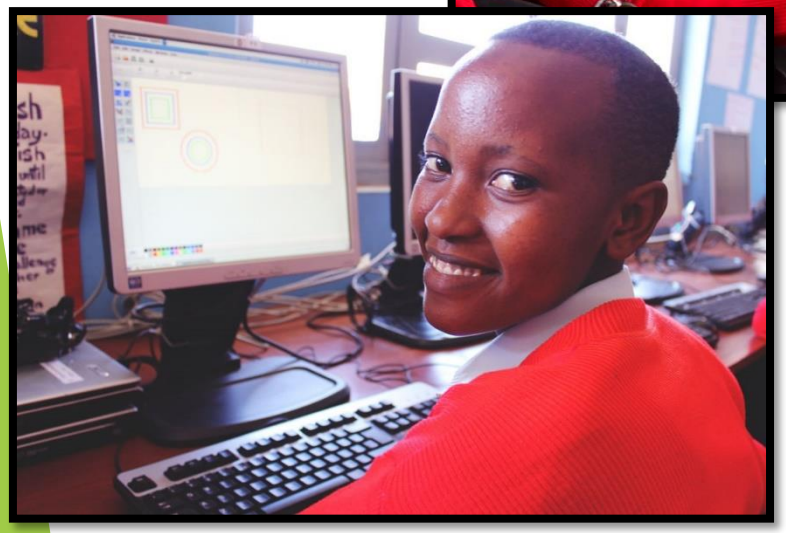
- Policy – educational reform and curricula
- HICD – individual – professional development for pedagogy
- HICD – institution – facilities investment; processes for curriculum reform
- HICD – institution – structure/system for connecting all types of AET institutions together and with extension

Example AET System

- Dr. Wayne Ganpat
  The University of the West Indies
  Trinidad and Tobago

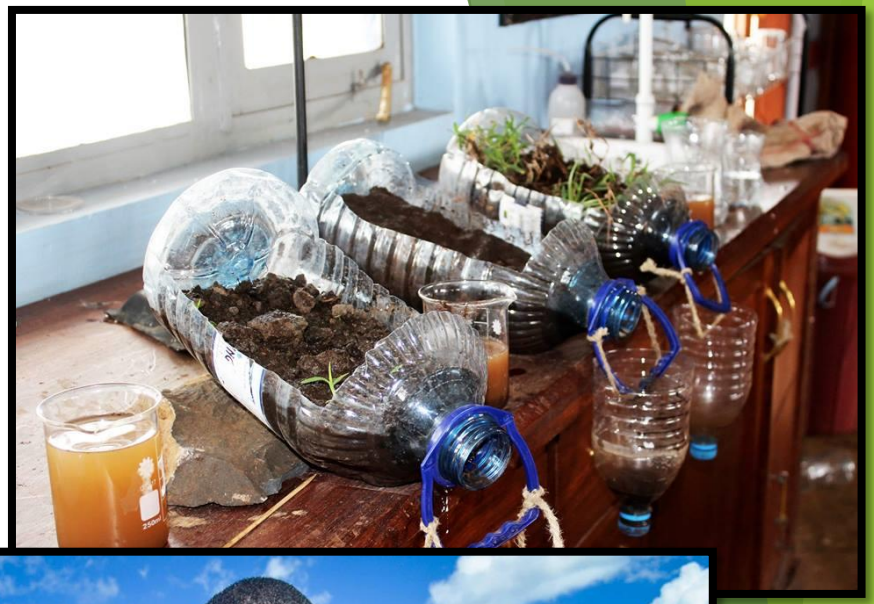
Example AET System

- Mr. Seth Heinert
  Orkeeswa School
  Tanzania



ieft

Indigenous Education Foundation of Tanzania



ieft

Indigenous Education Foundation of Tanzania

Run by an NGO in Kenya

Again in Kenya

In Kenya


COMMUNITY KNOWLEDGE CENTRE
Community Knowledge Centre
ISINYA
A.C.K
ALiN
This Community Knowledge Centre was Established by the Maasai Rural Training Centre -MRTC in Collaboration with Arid Lands Information Network - (ALIN)
This Centre is open to all Community Members.
SERVICES:
Library Resource Services
Computer Training
Internet / Email
Information on Agriculture, Livestock, Environment, Market etc
Entangamu ningaringara ngeno inyi
Receive and Share knowledge here!
Pokea na usambaze maarifa yako hapa!
na faida
ALIN
GAZA

NGO; KIND (Kids in Need of Direction)

Inside the Bus!

Mobile Learning Unit (MOA in Trinidad)

Gov’t Extension officers in Belize at training session

Inside the bus again

Small Mayan farmer in Belize project run by an NGO and supported by the MOA (Belize)

Masai farmer in Kenya using mobile device to get information
My picture which I am proud of!

Small farmer shade house in Costa Rica

Masai farmers hosting a field day for visitors to their farm

Bananas in Costa Rican production line

Needs assessment in Belize

USAID FROM THE AMERICAN PEOPLE

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

innovATE
Innovation for Agricultural Training and Education

www.oired.vt.edu/innovate

@Innov_ATE Facebook.com/InnovATEAgEd

VirginiaTech
Invent the Future

PENNSTATE 1855

TUSKEGEE UNIVERSITY

UF UNIVERSITY of FLORIDA
The Foundation for The Gator Nation

InnovATE is supported by a grant from USAID and managed by Virginia Tech's Office of International Research, Education, and Development (OIRED). This project was made possible by the United States Agency for International Development and the generous support of the American people through USAID Cooperative Agreement No. AID-OAA-L-12-00002

Top Take-aways

SHARE – DISCUSS - LEARN
Agrilinks.org

1. AET is a system with many complex pieces and linkages.

2. Only working with one piece of the system may not have the sustainable impacts you desire.

3. Investing in building the capacity of instructors is important.

4. Linking AET and extension is an important, but often neglected, linkage in the system.

5. All systemic changes must begin with a good understanding of the current situation and cultural context.

Questions and Answers

Continue the conversation

Comment on today's topic:
Check back on the event page

Tweet tips!
twitter.com/agrilinks

Post resources!
facebook.com/agrilinks