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“Water and Climate Change: Looking at Africa and South America”

Teaching Water: Global Perspectives on a Resource in Crisis

August 5-8, 2013, Harvard University

Time tag: 00:00 - 4:00

Key Content

Climate change will alter water access and availability in Africa
Changes in water mean changes in farming (income, agriculture, nutrition)
Eliminating undernutrition and stunting will require provision of adequate and diverse
diets; removing environmental contamination; prevention of infectious diseases
Although income has risen, malnutrition has not changed

Viewing questions

*How does the water usage of people in Africa compare to water usage in the United
States? Do water needs differ for the average person in these regions? If so, how?*

Time tag: 8:05-16:00

Key Content

Interaction between infection and malnutrition
Environmental Enteropathy (10:30)

Viewing questions

*What information surprised you or was new to you?
Given limited resources, do you think it is more effective to tackle the issue of clean
water or to provide ready to use food for undernourished children?*

Time tag: 16:04 -26:00

Key Content

Classic household water sanitation
Farm practices to control spread of disease
Aflatoxins on crops, cassava
Malnutrition/Enteropathy Cycle

Time tag: 26:00 – 32:00

Key Content

Connection between reservoir and malaria levels and irrigation/farming
Water is critical to basic sanitary conditions

Viewing questions

What communities depend on, or are affected by, reservoirs?

What are the needs and interests of the following groups:

Those who live near the reservoirs and are exposed to malaria?

Those who live further and must travel a greater distance to obtain water?

Farmers who need water for irrigation and food production?

How might these needs and interests affect their perspective on reservoirs?

Time tag: 32:00 – 40:00

Key Content

Sustainable development in the Amazon

Linkage of water and climate change

How water and hydropower generation interchange

Global water cycle and evapotranspiration process

Deforestation leads to reduced evapotranspiration

By 2050, 12-21% rainfall reduction over Amazon, threatening food productivity and hydropower generation

Viewing questions

How does deforestation affect rainfall? How does rainfall affect people's daily lives?

Time tag: 40:00 – 48:00

Key Content

Biosphere model

Impacts of rainfall change to hydropower

Brazil is 80% dependent on hydropower

Rainfall pattern changes the stream flow pattern in rivers

Viewing questions

Are there any local cases of changing river flow, similar to the Paraná case?

Time tag: 48:00

Key Content

Take-away Messages

Water is very crucial in the processes of the atmosphere-land interactions

Current and predicted deforestation alters the water cycle under anticipated climate change

Change in rainfall patterns will challenge the Brazilian energy sector as it heavily relies upon the hydroelectric power generation