

September 29<sup>th</sup> - 30<sup>th</sup>, 2016  
Palmeraie Golf Palace,  
Marrakesh



29 - 30 septembre 2016  
Palmeraie Golf Palace,  
Marrakech

## **HIGH-LEVEL MEETING ON THE INITIATIVE FOR THE ADAPTATION OF AFRICAN AGRICULTURE TO CLIMATE CHANGE "AAA"**

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## **RENCONTRE DE HAUT NIVEAU SUR L'INITIATIVE POUR L'ADAPTATION DE L'AGRICULTURE AFRICAINE AUX CHANGEMENTS CLIMATIQUES "AAA"**

# RATTAN LAL

Nobel Prize Recipient





**THE OHIO STATE UNIVERSITY**

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# **Adaptation of African Agriculture to Climate Change (AAA)**

Dr. Rattan Lal

Carbon Management and Sequestration Center

**29-30 September, 2016**

**Marrakech, Morocco**



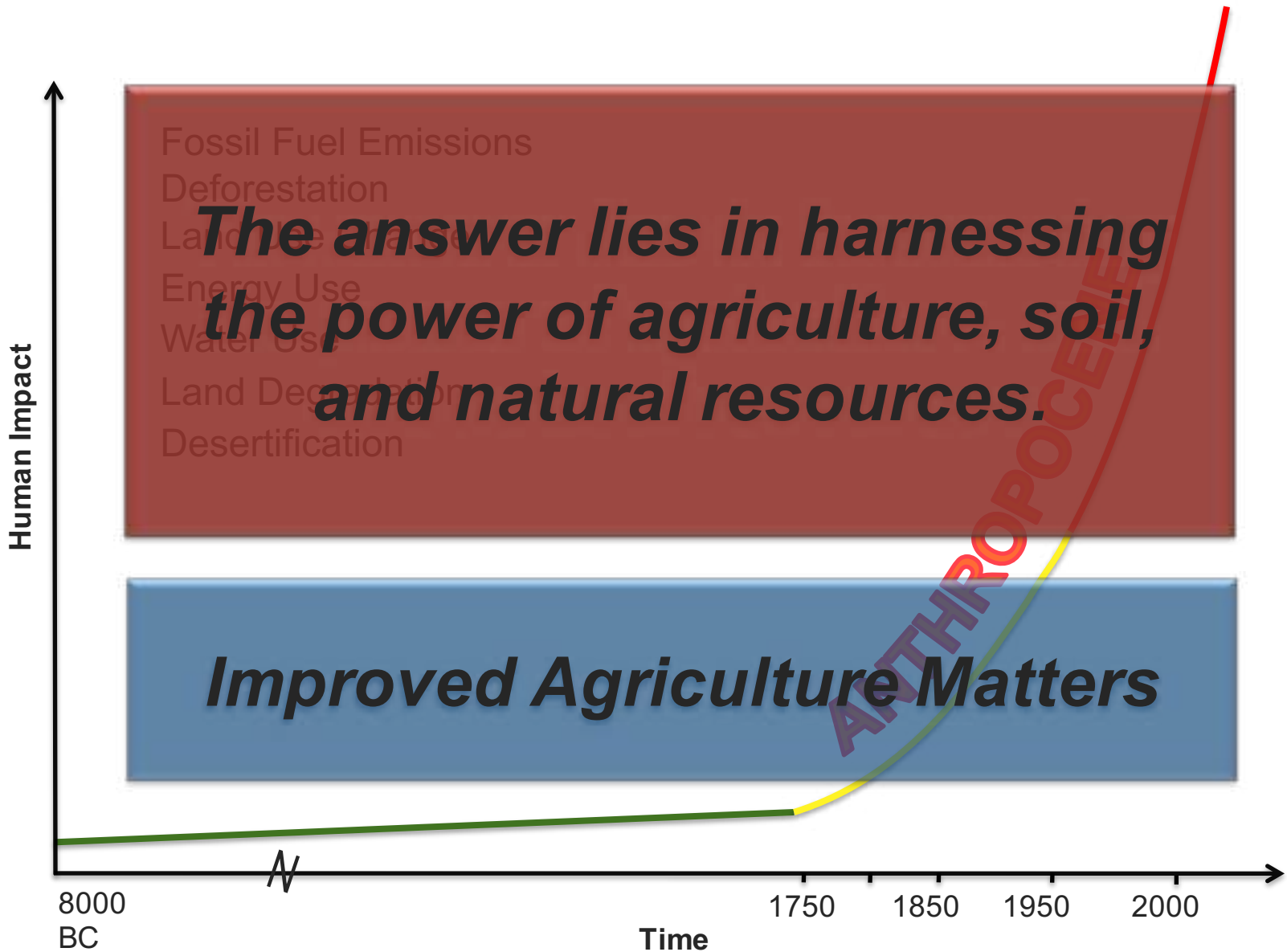


# THE EARTH



Look again at that blue pearl in the space. That's here. That's home. That's us. On it is everyone you love, everyone you know, everyone you ever heard of, every human being who ever was, lived out their lives. The aggregates of our joy and suffering, thousands of confident religions, ideologies, and economic doctrines, every hunter and forager, every hero and coward, every creator and destroyer of civilization, every king and peasant. Every young couple in love, every mother and father, hopeful child, inventor and explorer, every teacher of morals, every aspiring politician, every "super leader", every saint and sinner in the history of our species lived there- on a mote of dust suspended in a sunbeam.

~Carl Sagan





# MANKIND AND THE ENVIRONMENT

**“Mankind is on the horns of a dilemma.**

**For whether we like it or not, our collective way of life has become unsustainable and we need to do something about it – and soon.**

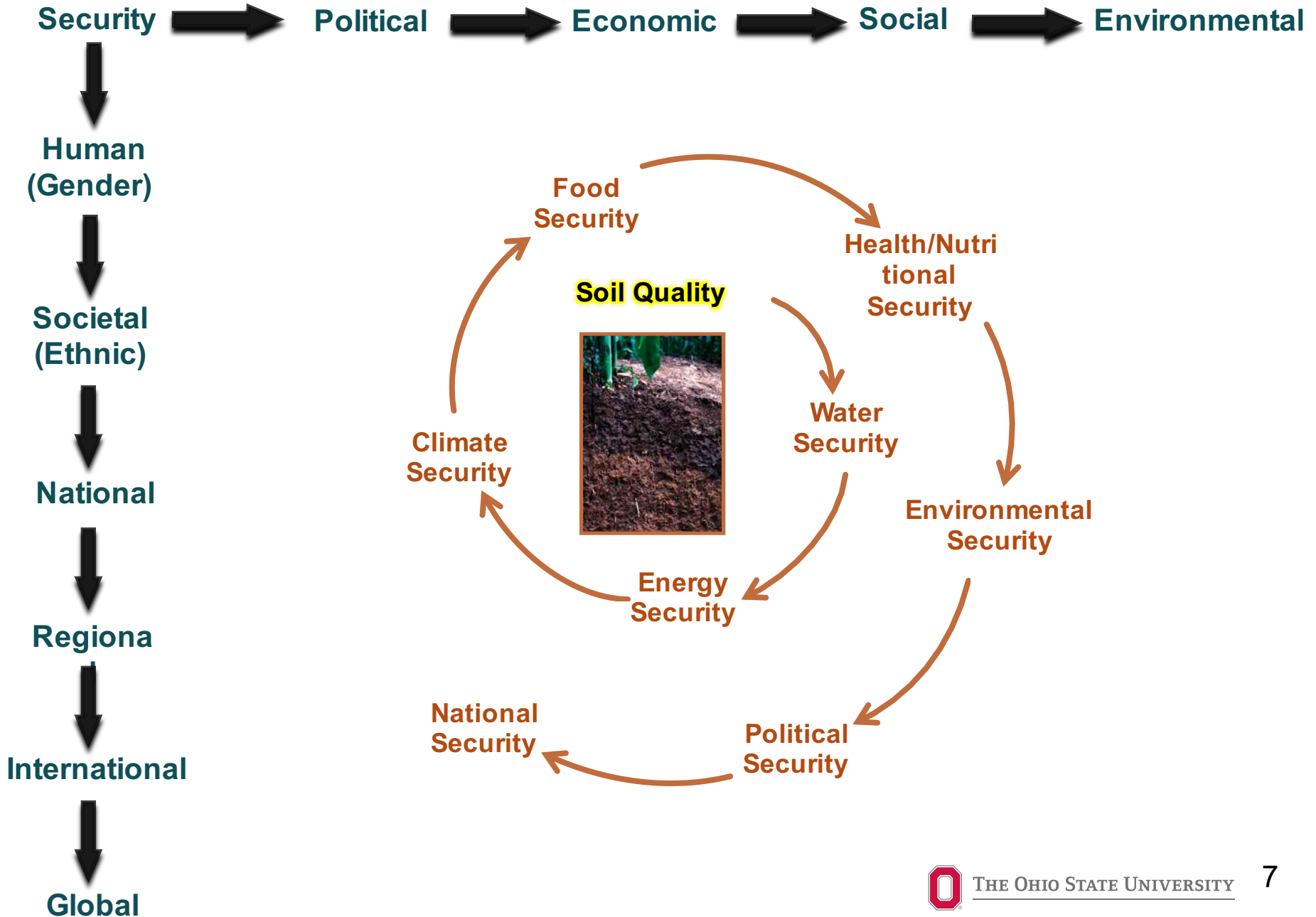
**The choices we have already made about the way we lead our lives have been slowly eating away at the very support system that enables us to live and breathe.**

**This cannot, and should not, go on.**

**We need to make some tough decisions, we need to make them now and we need to act on them as one, with total and undivided commitment – today and in the future.**

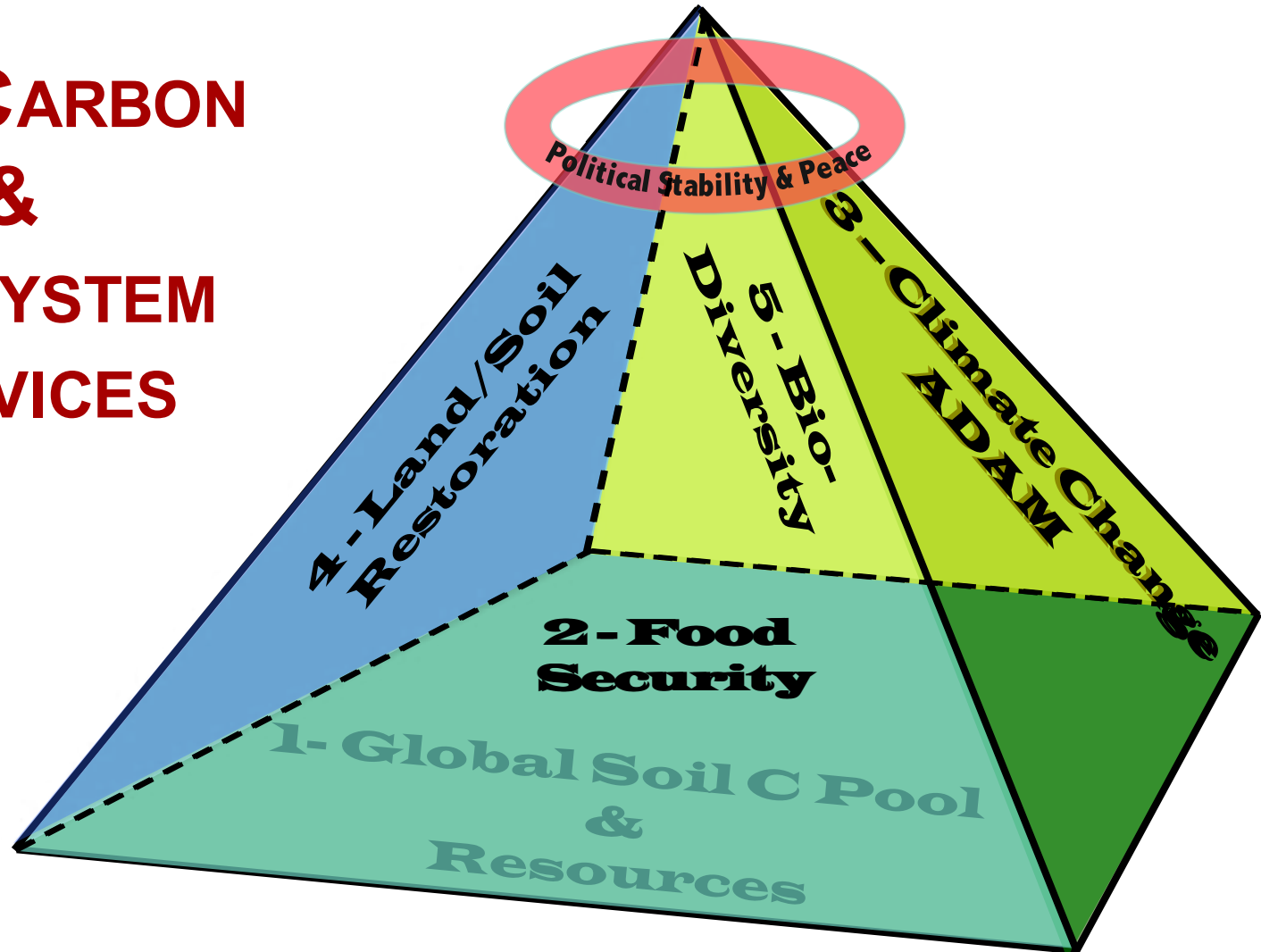
**Faced with facts we cannot argue against, we need to consider our priorities and accept that we have to make certain sacrifices; we need to start putting ‘life’ ahead of ‘lifestyle’.”**

# SECURITIZATION OF FOOD AND THE ENVIRONMENT THROUGH SOIL SUSTAINABILITY





# SOIL CARBON & ECOSYSTEM SERVICES







# CLIMATE CHANGE AND HUMAN RESPONSE

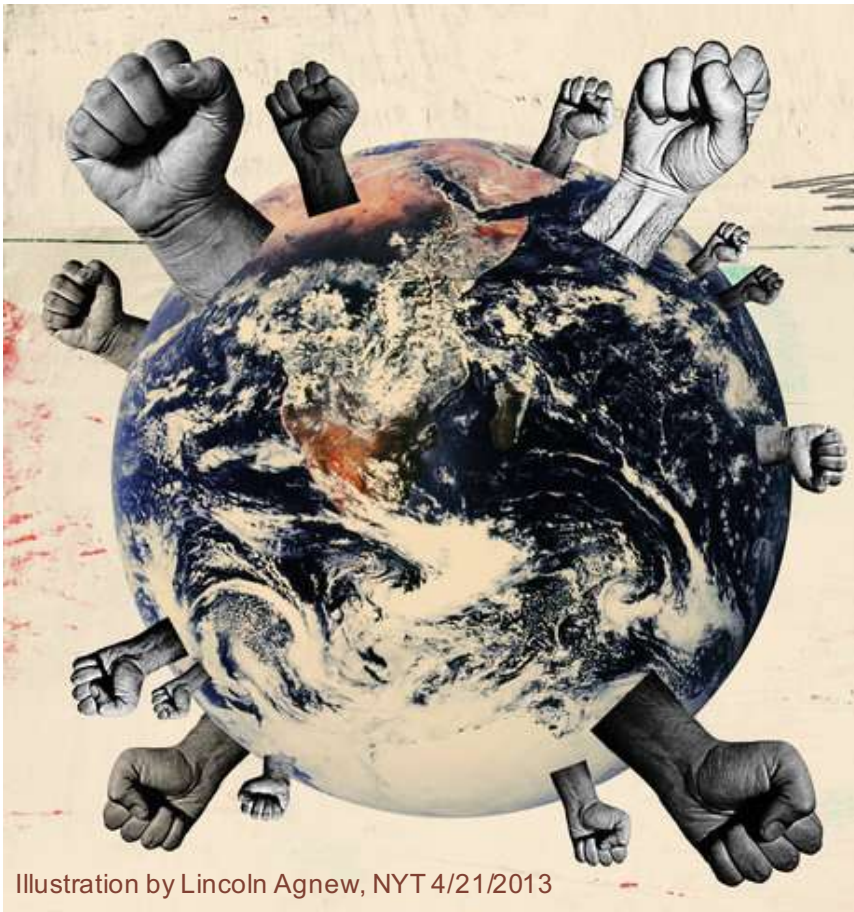


Illustration by Lincoln Agnew, NYT 4/21/2013

- Humans have not had to deal with such a drastic climate change since 10-12 millennia ago
- Now the humans, with population of 7.4 billion and projected to be 9.7 billion by 2050 and 11.2 billion by 2100, have to deal with it and increasingly so in the future
- **COP-21 in Paris was a historic landmark for soil C sequestration.**
- **Now, all hopes are on AAA Initiative at COP-22 in Marrakech in Nov.2016.**



## ADAPTATION OF THE AFRICAN AGRICULTURE TO CLIMATE CHANGE (AAA)

With vast endowments of natural resources comprising of a wide range of climates/biomes/soils and human capital, Africa has the capacity to be a bread basket of the world and mitigate climate change by implementing the AAA Initiative through:

- A widespread ecosystem-based adaptation,
- Emphasis on soil restoration and zero-net land degradation,
- Soil carbon sequestration through adoption of site-specific CSA,
- Empowering farmers (especially women farmers) to adopt BMPs, and
- Strengthening political willpower and provide effective governance.



# SOIL STEWARDSHIP

Soil stewardship and care must be embedded in every fruit and vegetable eaten, in each grain ground into the bread consumed, in every cup of water used, in every breath of air inhaled, and in every scenic landscape cherished.

Lal (2015)