Trust of African society towards scientists: current and future situation

Regional Universities Forum for Capacity Building in Agriculture (RUFORUM)

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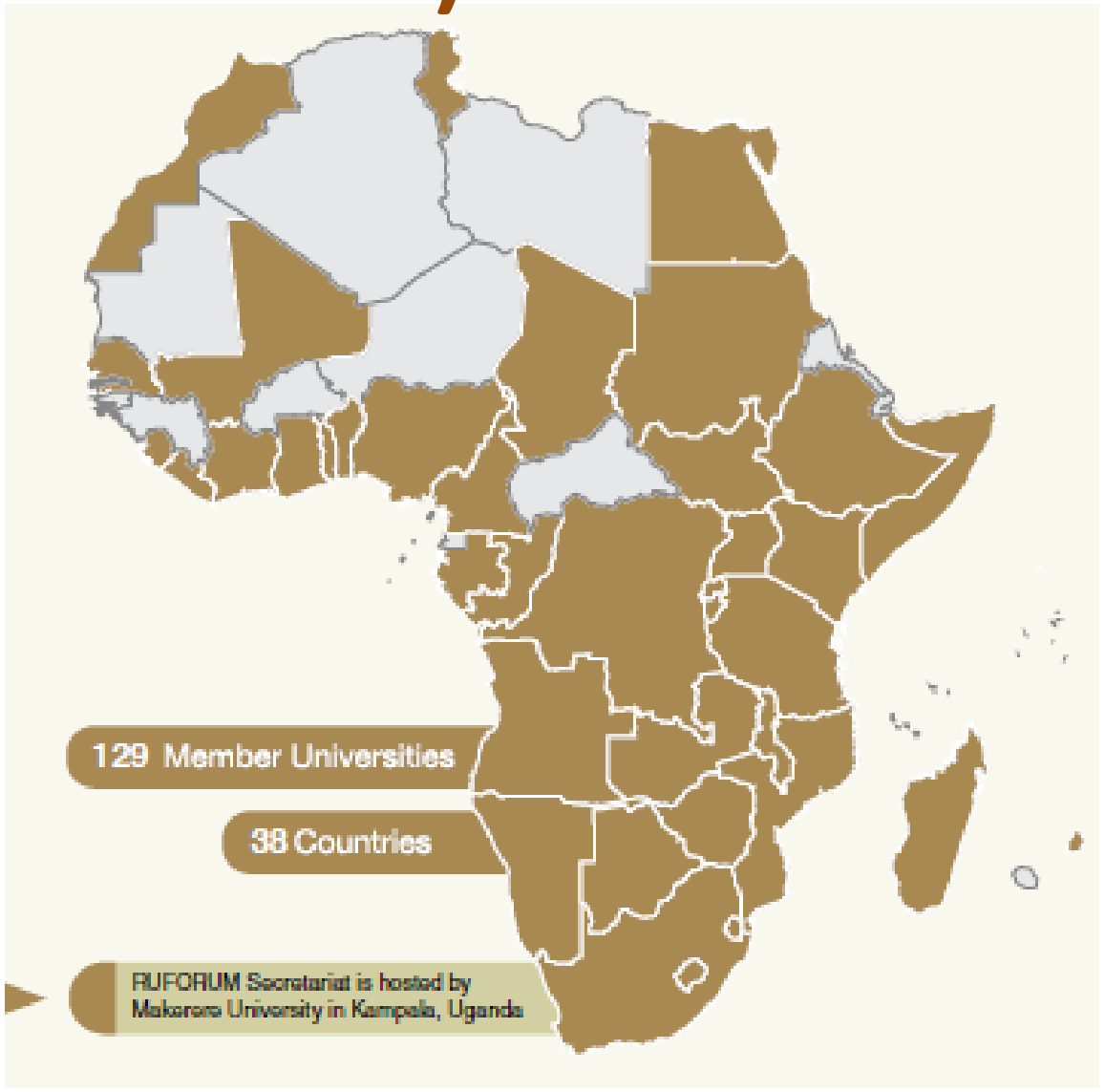
Presentation Outline

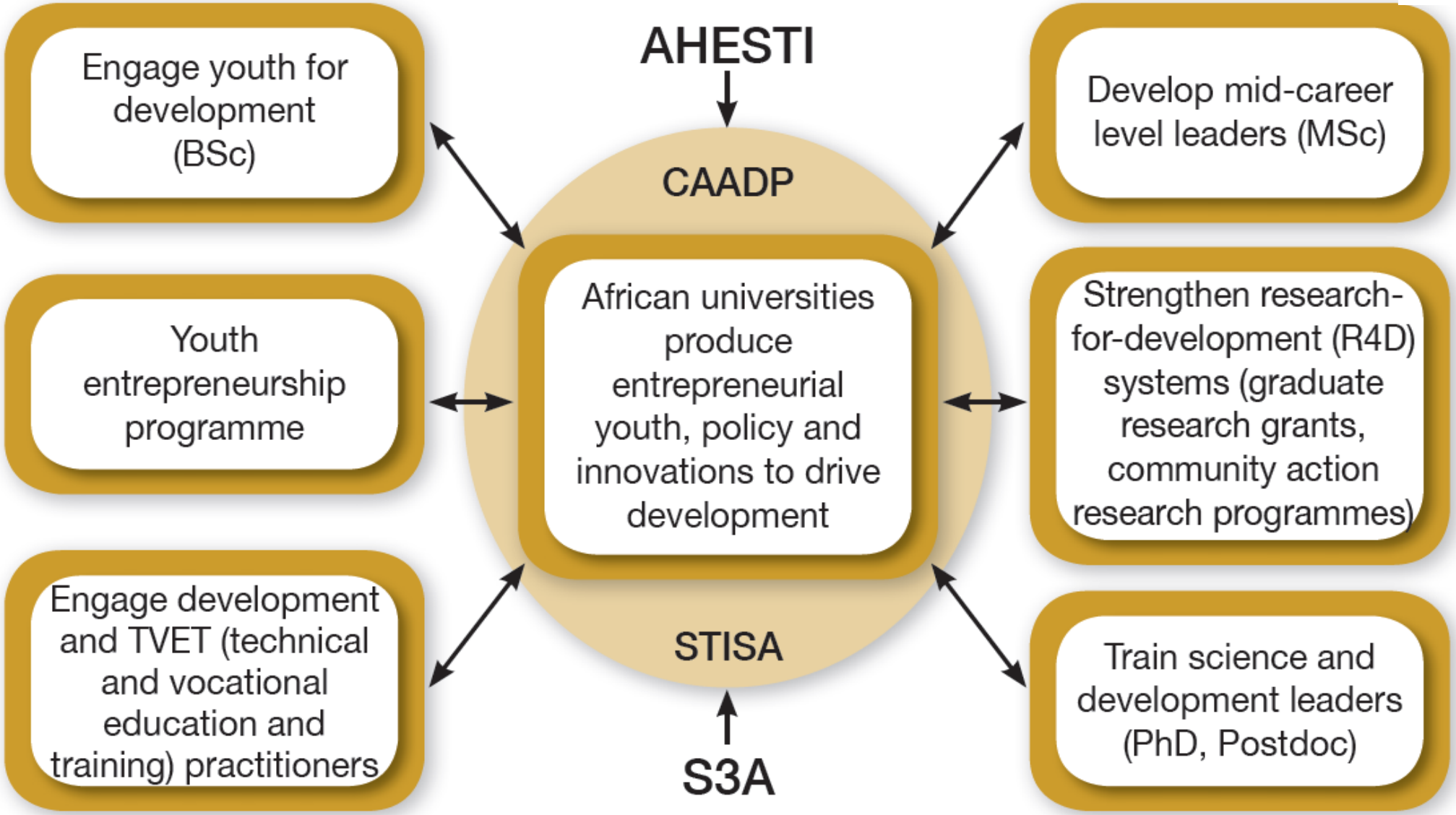
- Brief about RUFORUM
- Understanding of “Trust”
- The African society – past and present
- The knowledge systems - science and African Indigenous Knowledge Systems (AIKS)
- Africa’s trust in science and why/why not
- Important considerations for more trust in science for the future

Regional Universities Forum for Capacity Building in Agriculture (RUFORUM)

- **Mission** - *Strengthen capacities of universities to foster innovations responsive to demands of small-holder farmers - output of impact-oriented research*
- **Core objectives:**
  - Building synergy from networks of specialization to develop quality human resources and institutions
  - Ensuring the products, processes and knowledge from universities research responds to agri-food system needs
  - Marshalling resources and strategically allocating them across African universities



RUFORUM – What we do



The Regional Universities Forum for Capacity Building in Agriculture (RUFORUM)

Research and Innovation

Integrative and Collaborati

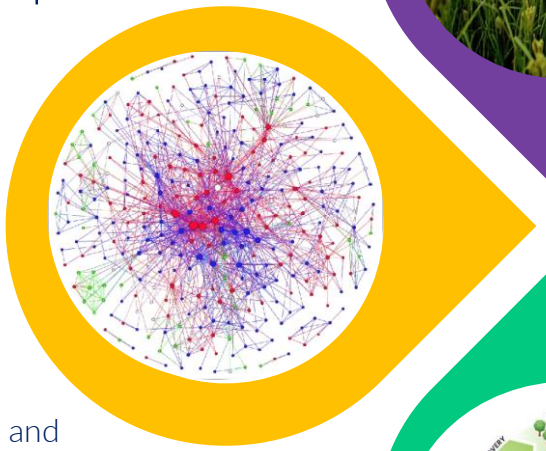
RUFORUM
Capacity Building in Agriculture

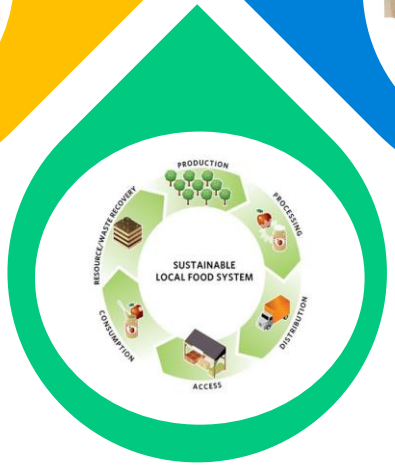
Agricultural Productivity

-Plant breeding and bio-technology advancement

-Agricultural risks associated with climate change and emerging pests

-Technology innovation and adoption





Value addition, agribusiness and market integration

-Increasing farmer incomes through value addition and market integration

-Bring on board smallholder farmers that are outside the money economy to realise financial transactions through commoditization of their produce

-Business incubation

Developing R&I Ecosystem

Creating an enabling environment for research and innovation in African universities through:

-Functional dimensions-reconfiguring teaching, -Intensification of research and engagement with impact actors

-Policy and development practice

-Advocacy for financing and investing in R&I

Environmental Sustainability

-Food systems approach to realizing the required gains in agriculture and balance with environmental integrity

-Environment and Natural resources conservation .

"Transforming agriculture in Africa requires innovative scientific research, educational and training approaches. The education sector needs to be more connected to the new challenges facing rural communities and needs to build capacity of young people to be part of the transformation of the agricultural sector"

OUR MOTIVATION

What is trust?

Firm belief in the reliability, truth, or ability of scientists to solve daily life challenges

- ***Cultural***
- ***Economic***
- ***Prestige***
- ***Problem solving***

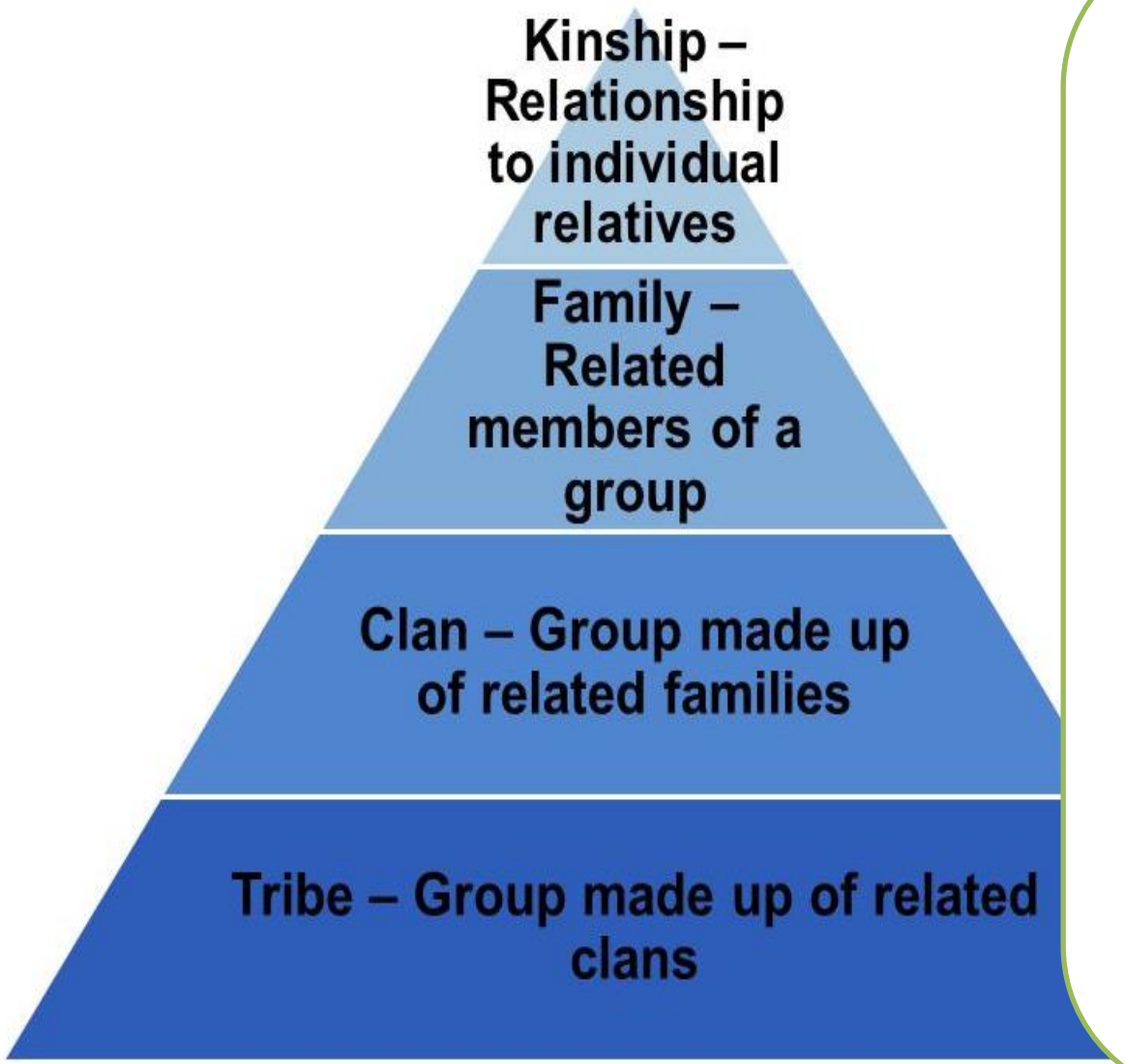
What is science and what is it for?

- *Science is a system of knowledge and the methods you use to find that knowledge*
- *It begins with curiosity and often ends in discovery*
- *Observing and measuring provide ways to find answers to questions about nature*
- *Observations can be quantitative (numerical) or qualitative (descriptive)*

PURPOSE OF SCIENCE IS TO UNDERSTAND SECRETS OF NATURE AND UTILIZE THEM FOR WELFARE OF SOCIETY.

Dr Rakesh YashRoy September 8, 2017.

Structure of the traditional Africa Society



Large Kingdoms/Chiefdoms

- Ruling Elites
- Military Nobles
- Administrative Officials
- Religious Officials
- Wealthy Merchants
- Artisans
- Commoners
- Peasants
- Slaves

- ❑ Rural based
- ❑ Strong cultural orientation
- ❑ Largely in tune with natural processes

African Indigenous Knowledge Systems (AIKS)

- Similar to the scientific methods and consisted of empirical and cognitive
- Natural: Ecology, biodiversity, soil, agriculture, medicinal and pharmaceutical
- Technological & architectural: Crafts such as metallurgy, textiles, basketry, food processing & building
- Socio-cultural spheres: - Social welfare, governance, conflict resolutions, music & art

The modern African Society: An amalgan of western civilization and tradition

- Colonial influence and globalization driving the rapid change in societal structure, function and consequently use of science
- Policy makers: need science to make policies and govern effectively
- Formal education institutions – use science information
- Researchers – use science for products and knowledge
- Private sector – Largely SMEs, low use/trust in science
- Non-governmental organisations – use science for service delivery
- Rural communities and the rest of society – products and knowledge

Convergence of science and AIKS: Past and current era

- Both are knowledge generation and use systems to solve society's needs and challenges for a better existence
- All seek to achieve a better understanding of nature and how to live in it sustainably for the human good
- *Better understanding of nature enables man to manipulate nature and develop technologies for the improved wellbeing of human kind*
- All satisfy the human curiosity

Divergence between science and AIKS

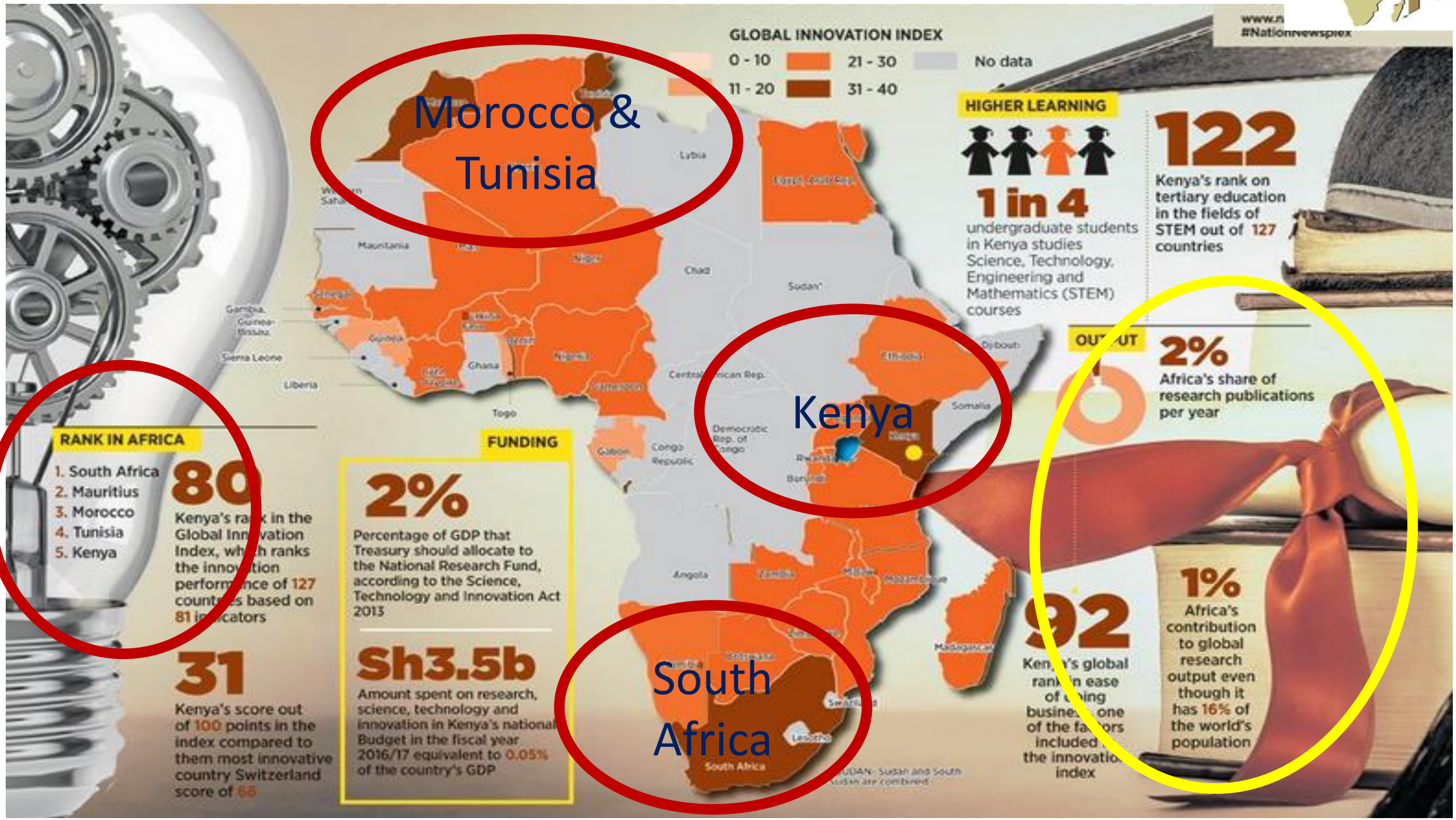
Science

- Empirically accurate and specific
- High level of manipulation of nature and society for a good
- Knowledge may be developed much faster with less errors depending on the need to be addressed
- Knowledge and technologies are documented

AIKS

- Based on approximations
- Low level of manipulation of nature and society for a good
- Knowledge development takes a longer time (some times takes centuries to perfect)
- Knowledge is largely tacit and passed on by demonstration and use

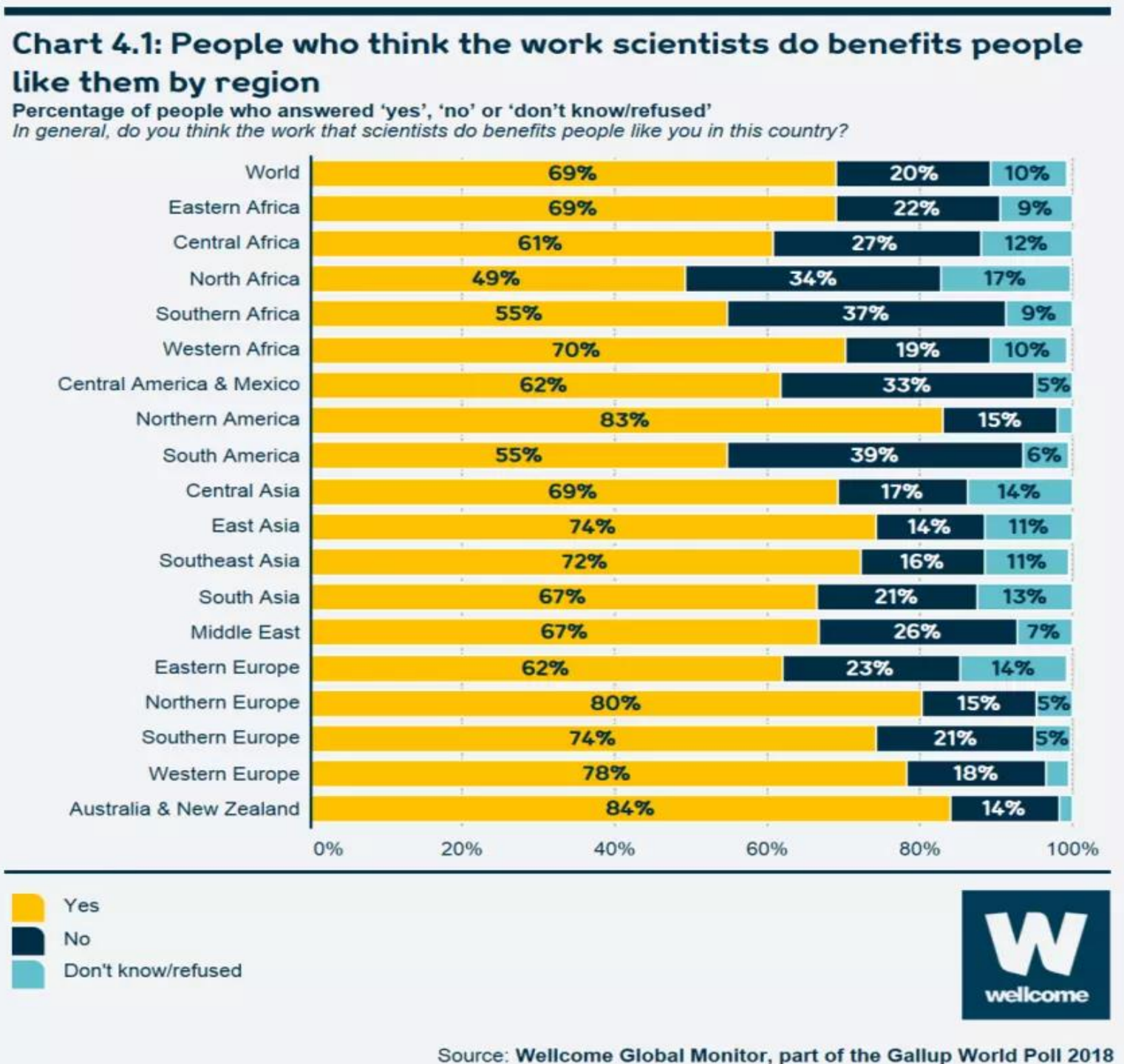
Leaders of Innovation in Africa - 2018



Source: [link]

Trust in science globally

There is higher level of trust in science in Africa than mis-trust ~ 62%



Why the higher trust?

- Increased access to formal education which makes known the merits of science versus AIKS

- Increase in life existential threats for humankind with no more luxury of gaining knowledge over centuries/millennia

- Demonstration of results in solving life problems in a short time

Why the higher trust? cont…

- The globalized world underpinned by increased mobility and digital access to scientific information

- Showcasing of innovations and potential for wild human ingenuity and the urge to be the ones responsible

- Completely novel technologies that AIKS does not deliver (computers, cars, space)

What about the 38%

- Science itself has disrupted the African cultural identity
  - What is viewed as food versus new plant varieties
  - Isolation of individuals from society and occupying them in jobs
- Science and specifically the research phase is characterized by only data collection and dissemination of information that does not make sense to the communities
- The cost of knowledge production is high
- What is put out as knowledge is perceived to be influenced rather than unadulterated science

Expectations and commitments of society towards science

- Developing solutions for real life issues not knowing for the sake of knowing
- They must be part of the knowledge generation process and not developing knowledge for them

- Important to consider their knowledge based on AIKS before you introduce yours otherwise it will fail

- Communicate in a language that they understand and preferably in their local language to facilitate identity and ownership – decolonization of science

- You must recognize and respect belief systems and cultural identify because they rather die for it that take up a technology

Perceptions of Society towards science – the negative

- Climate forecasting – indigenous versus scientific method in Karamoja, Uganda
- Acceptance of water harvesting and micro-irrigation technologies in Uganda
- Participation and acceptance of new crop varieties for food security – local versus improved banana varieties

Evolution of the trust between scientists and society in the next decades

- Relationship between society is improving (62%) but respect to cultural norms and beliefs remains important

- The increase in trust is driven by formal education, globalization and access to social media especially for the young people

- Challenges requiring new knowledge (climate change, disasters, population growth etc. are increasing demand for scientific knowledge

- The young generation that constitutes the largest demographic category is science enthusiastic
- Tomorrow's science should forecast the problems and provide solutions to societal needs

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