GUIDELINES FOR A HOLISTIC APPROACH TO SUSTAINABLE CLIMATE ADAPTATION AND RESILIENCE FOR RURAL ROAD INFRASTRUCTURE IN AFRICA

FORESIGHT SESSION 3. ROAD INFRASTRUCTURE RESILIENCE - WHAT DOES IT MEAN AND HOW RESILIENT ARE WE?

NKULULEKO LETA

DEPUTY TEAM LEADER – INFRASTRUCTURE RESEARCH
CARDNO UK/RECAP
DEFINITION OF THE PROBLEM – SUB-SAHARAN AFRICA PERSPECTIVE

PROJECTED CLIMATE CHANGE, THROUGH TO THE YEAR 2100, IS CURRENTLY ESTIMATED TO COST THE AFRICAN ROADS SECTOR US $184 BILLION TO REPAIR AND MAINTAIN IF CLIMATE ADAPTATION ACTION IS NOT TAKEN – P. CHINOWSKY

- Enormous economic cost does NOT include new road infrastructure
- Compounded by existing lack of adequate road infrastructure and the long distances to markets and essential services that have been a major development hurdle
  - Rural communities are especially susceptible to the impacts of climate variability as they bear the brunt of the consequences of inaction
- Lack of embedment of CCA resulting in unsystematic approaches to dealing with these extreme climate events.
Sub-Saharan Africa Perspective

Advances made in risk management & resilience optimisation for vulnerable access roads in Africa

- acknowledgement that regional guidance is needed on the development of climate-resilient road infrastructure – initiative taken to address this need by the Research for Community Access Partnership (ReCAP), a research programme funded by UKAid, through:

  - development of a Climate Adaptation Handbook that provides a methodology to support resilience and adaptation building in the roads sector through: Screening climate risks, carrying out impact assessments, prioritisation and evaluation of investments, design & implementation and the monitoring & evaluation thereof.

  - recognition that there is a critical need for embedding and mainstreaming CCA not just into the road engineering practices but also into national policies, information systems, thinking and local capacities.
Sub-Saharan Africa Perspective
Advances made in risk management & resilience optimisation for vulnerable access roads in Africa
Handbook and associated Guidelines
Sub-Saharan Africa Perspective
Advances made in risk management & resilience optimisation for vulnerable access roads in Africa

The Climate Adaptation Handbook

✓ provides a methodology for carrying out a climate adaptation assessment for rural access to assist socio-economic development

✓ focuses on those activities and actions that conventional engineering standards and procedures do not necessarily cover

✓ is supported by detailed guidance through guidelines:

• Change Management Guideline, covers:

✓ policy and planning

✓ stakeholder and asset management

✓ recommendations for the formulation of strategies and programmes for improvement.
Sub-Saharan Africa Perspective
Advances made in risk management & resilience optimisation for vulnerable access roads in Africa

• Climate Risk and Vulnerability Assessment Guideline
  ✓ takes users through the steps involved in conducting a risk and vulnerability assessment at national/district-level as well as local project-level risk and vulnerability study when implementing new or maintaining/retrofitting existing infrastructure

• Engineering Adaptation Guideline
  ✓ introduces primary climatic attributes and the potential effects of these, followed by the provision of suggested adaptation measures for each infrastructure component
  ✓ also highlights the critical importance of effective drainage provision and of timely and appropriate maintenance of road assets.
EMBEDDMENT OF CLIMATE CHANGE ADAPTATION

TYPICAL OBSTACLES FOUND IN 3 PARTICIPATING AFRICAN COUNTRIES

- Policy gaps that fail to adequately address climate change in the transport sector

- The lack of in-country collaboration between sectors when dealing with climate change science

- The challenge of working with multiple actors from different decision-making environments

- The scarcity of data when conducting analysis in resource-stricken countries

- The inconsistency between African countries in the quality and quantity of available data, and

- Restrictive institutional policies (e.g. Data sharing protocols) regarding ownership and custodianship of data sources.
Sub-Saharan Africa Perspective
Concrete actions for sustainable way forward

- Science-based research to identify climate hazards, vulnerability and impacts on roads

- In addition to having robust discussions about how we think about, act, plan and design sustainable climate resilient rural access roads we need to test, trial, evaluate and monitor these new approaches and share these lessons (demonstration sites)

- Mainstreaming climate change adaptation into government's planning policies, plans, processes and systems requires buy-in, uptake and extensive capacity development

- Climate change adaptation is a long-term country commitment and involves multiple role-players and stakeholders across various domains.
Concrete actions for sustainable way forward (cont’d)

- Climate change adaptation in the roads sector needs to be embedded in a range of levels spanning national policies, planning instruments, monitoring and asset management systems, information systems, down to an engineering project level.

- Policies relating to Climate Change adaptation should be embedded in the entire life-cycle of rural access roads.

- Climate Change adaptation is a proactive initiative that aims to support the long-term development of resilient, sustainable and hazards resistant rural access roads.
Goals:

- Goal 1 – NO POVERTY
- Goal 2 – ZERO HUNGER
- Goal 3 – GOOD HEALTH AND WELL-BEING
- Goal 4 – QUALITY EDUCATION
- Goal 8 – DECENT WORK AND ECONOMIC GROWTH
PANEL DISCUSSION AND QUESTIONS
1. DOWNLOAD THE ADWRC APP
2. FIND MY PRESENTATION
3. RATE MY PRESENTATION
4. SHARE YOUR FEEDBACK

AVAILABLE NOW
ABU DHABI WORLD ROAD CONGRESS APP