

Final Report: A Pan-African Capacity Building Programme on Inclusive Climate Resilient Planning for Active Mobility

Mobilising action and enhancing capacity for inclusive low emission mobility in a changing climate

December 2024 Project HVT/058





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Abstract

The Pan-African Capacity Building Programme on Inclusive Climate-Resilient Planning for Active Mobility, led by the Stockholm Environment Institute at the University of York, advanced active mobility and climate resilience across Africa. Central to the initiative was the development and launch of the Pan- African Action Plan for Active Mobility (PAAPAM) in November 2024, providing a strategic framework for promoting walking and cycling while embedding inclusive, climate-resilient transport into policies.

The programme engaged 229 participants through masterclasses and workshops in five regions, equipping transport practitioners with skills to address infrastructure challenges and implement inclusive systems. Key outcomes include commitments from Ghana, Kenya, and Malawi to adopt PAAPAM, regional collaboration to integrate active mobility into urban strategies, and tools to design equitable transport systems. By focusing on the needs of disadvantaged groups, including women and people with disabilities, the programme fostered inclusivity.

Communication efforts amplified its reach, achieving a 57.39% online engagement rate. Aligned with UNEP's Share the Road initiative and developed through extensive consultations, PAAPAM promotes investment and regional coordination.

Keywords	Active mobility, walking, cycling, policy development, planning, transport, public health, economic growth, traffic congestion, social inclusivity, climate resilience, capacity building, gender and equity, road safety.	
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Acronyms

ATRC	African Transport Research Conference	
BYCS	Bike Your City Sustainably	
CDP	Carbon Disclosure Project	
COP	Conference of Parties	
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit	
HVT	High Volume Transport	
iRAP	International Road Assessment Programme	
LMICs	Low- and Middle-Income Countries	
NMT	Non-motorized transport	
PAAPAM	Pan-African Plan for Active Mobility	
SADC	South African Development Community	
SEI-UoY	Stockholm Environment Institute at the University of York	
ToC	Theory of change	
UD	Universal design	
UNHCR	United Nations High Commissioner for Refugees	
UNEP	UN Environment Programme	
WHO	World Health Organization	



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Executive Summary

The Stockholm Environment Institute (SEI) at the University of York led the implementation of the Pan-African Capacity Building Programme on Inclusive Climate-Resilient Planning for Active Mobility, funded under the High Volume Transport (HVT) Programme. This initiative has played a key role in supporting the development of the Pan-African Action Plan for Active Mobility (PAAPAM), a collaborative effort spearheaded by UN Environment (UNEP), UN-Habitat, and the World Health Organization (WHO). PAAPAM provides a strategic framework for integrating walking and cycling into African transport systems, with a focus on inclusivity, safety, and climate resilience.

Building on the earlier Inclusive Climate-Resilient Transport in Africa project (HVT046), also funded by the HVT Programme, the PAAPAM initiative addresses critical gaps in transport planning by prioritising the needs of disadvantaged groups and responding to climate change impacts. The project delivered targeted training, stakeholder engagement, and policy contributions, achieving measurable outcomes aligned with HVT Programme's Theory of Change (ToC).

Driving Change Through Action

The masterclass programme concentrated on building capacity to address the dual priorities of inclusivity and climate resilience in active mobility. Over **229 stakeholders** were trained covering participatory methods for inclusive transport planning. These masterclasses tackled the specific impacts of climate change on active mobility, such as flooding, heat stress, and infrastructure degradation, equipping participants to develop resilient and inclusive transport systems.

Through regional consultations and workshops, the project provided a platform for stakeholders to identify mobility challenges and design solutions tailored to their local contexts. Activities emphasised the critical role of active mobility in reducing emissions while ensuring equity and access, particularly for disadvantaged groups such as women and people with disabilities. Outputs from these activities were integral to shaping PAAPAM, launched at the **World Urban Forum in Cairo**, **2024**, with early commitments from **Malawi**, **Kenya**, **and Ghana**.

Key Contributions to the Theory of Change

The project made significant contributions to the HVT Programme's ToC by advancing its core objectives:

1. Raising Awareness:

The project highlighted the dual importance of active mobility in fostering climate resilience and inclusivity. Through training, consultations, and online dissemination, it highlighted vulnerabilities in active mobility to climate impacts, such as extreme weather events.

Content hosted on SEI's website achieved a 57.39% engagement rate, reflecting significant stakeholder interest and substantial reach as the project's central hub.

2. Building Capacity:

Capacity building and training of **229 participants** provided stakeholders with practical tools to achieve inclusive climate resilient transport planning and to address barriers to active mobility. For example, participants explored flood- resilient designs and shaded pathways to mitigate extreme weather impacts, while incorporating equitable solutions for marginalised groups.

3. Integrating Policy:

PAAPAM, informed by the project's consultations and training outputs, integrating climate-resilient and inclusive active mobility into regional and national transport strategies. Malawi, Kenya, and Ghana Commitments demonstrate the framework's early adoption.

4. Ensuring Sustainability:

By embedding PAAPAM within UNEP's **Share the Road** initiative, the project ensured its alignment with broader sustainability objectives and potential to attract long-term support and resources.



Overcoming Challenges

The project encountered logistical challenges in coordinating multi-regional activities and addressing diverse stakeholder priorities. Delays related to UNEP processes necessitated adaptive planning, while hybrid engagement methods were used to maximise participation. Introducing climate resilience into active mobility planning required additional effort to ensure stakeholders understood the connections and practical applications.

Creating Impact

The project delivered significant progress by:

- Capacity building and training **229 stakeholders** in climate-resilient and inclusive transport planning methods from various countries across Africa.
- Supporting the development and launch of PAAPAM, securing commitments from three countries and five cities in Ghana.
- Raising awareness of the impacts of climate change on active mobility and the importance of resilient infrastructure.
- Building regional collaboration and momentum for systemic improvements in transport planning.

Conclusion

This project successfully advanced the goals of the HVT Programme by integrating inclusivity and climate resilience into active mobility planning. Its contributions to PAAPAM and the capacity-building of stakeholders have created a strong foundation for long-term improvements in Africa's transport systems. Continued investment and collaboration will be critical to ensuring the full implementation of PAAPAM and maximising its potential to transform urban mobility in the face of climate challenges.



1. Introduction

Africa is at a pivotal moment, grappling with the intertwined challenges of climate change and rapid urbanisation. Despite contributing just 4% of global greenhouse gas (GHG) emissions, the continent bears a disproportionate burden of climate-related disasters (CDP, 2020). In 2022 alone, extreme weather events impacted over 110 million people, caused 5,000 fatalities and led to economic losses estimated at US\$8.5 billion (WMO, 2023). These events undermine sub-Saharan Africa's food security, economic stability, and social cohesion. Temperature increases across the continent already exceed the global average by 0.3°C, intensifying severe droughts, floods, and other climate- related phenomena (WMO, 2024). One transformative yet underutilised solution to these challenges is prioritising and investing in active mobility - walking, cycling, and other forms of non-motorised transport (NMT), including rolling with mobility-assistance devices (e.g., wheelchairs and mobility scooters) (World Bank, 2023).

Active mobility provides a sustainable, low-carbon alternative to traditional motorised transport, delivering significant environmental, public health, and social equity benefits. Walking is a cornerstone of multimodal transport systems, facilitating essential first- and last-mile connectivity to public and informal transport services such as buses, shared taxis, and boda-boda services. With 78% of the population relying on walking as their primary mode of transport and spending an average of 56 minutes daily walking or cycling (UNEP/UN-HABITAT, 2022), the role of active mobility in the transport network is indispensable. However, active mobility alone cannot meet all transport needs. A well-integrated transport system that includes improved public transport is equally vital for reducing private car dependency, supporting longer journeys, and maximising the emissions reductions and equity benefits of sustainable mobility.

However, the infrastructure to support walking and cycling is grossly inadequate, leaving pedestrians and cyclists unsafe and underserved. Africa remains the most dangerous region globally for these groups, accounting for 20% of global road traffic deaths despite having only 3% of the world's registered vehicles (UNEP/UN-HABITAT, 2022). With the escalating impacts of climate change, African cities must reduce GHG emissions while building resilience. Without adequate responses, by 2030, up to 118 million people living in extreme poverty could face greater exposure to climate hazards such as droughts, floods, and extreme heat, exacerbating poverty and hindering economic development (WMO, 2024).

Investing in climate-resilient infrastructure for walking and cycling is vital to ensuring these modes remain safe, accessible, and viable. Such investment is critical to fostering sustainable and equitable urban environments, especially in the context of growing urbanisation and climate vulnerability.

1.1 High Volume Transport Programme

The UK Foreign, Commonwealth & Development Office (UK FCDO) launched the High Volume Transport (HVT) Programme to address these challenges. The <u>Inclusive Climate Resilient Transport in Africa project</u> (HVT046), led by the Stockholm Environment Institute at the University of York, focused on promoting inclusive and climate-resilient transport systems in Africa.

The HVT046 project addressed critical gaps in transport planning by prioritising the needs of disadvantaged groups and the impacts of climate change. A State of Knowledge Report reviewed tools and methods for incorporating marginalised voices into transport planning. Case studies in Uganda and Zambia applied participatory mapping, digital storytelling, and the Delphi method, successfully capturing disadvantaged groups' mobility challenges and lived experiences. These insights informed the development of Guidelines for Practitioners: Using Creative Participatory Approaches for Inclusive Climate Resilient Transport Planning in Africa.

HVT046 also delivered capacity-building workshops, training 60 local implementers in participatory GIS, the Delphi method, and digital storytelling. Dissemination efforts included promotional videos, digital stories, policy briefs, and presentations at regional and international events, such as Walk21 in Kigali and COP27. Media engagement further amplified awareness, ensuring that project outputs reached a wide audience.



1.2 Building on HVT046

Pan-African Capacity Building Programme expanded on the achievements of HVT046, delivering a masterclass programme focused on inclusive, climate-resilient approaches to active mobility planning. These activities equipped participants with practical skills to implement the principles outlined in the Guidelines for Practitioners.

Through hands-on training, expert facilitation, and peer learning, stakeholders gained the tools to prioritise disadvantaged groups and integrate walking and cycling into multimodal transport systems. These efforts aligned with the Pan-Africa Action Plan for Active Mobility (PAAPAM), promoting sustainable practices that prioritise equity and resilience.

By building on the foundation of HVT046, this programme successfully addressed critical knowledge gaps, amplified the voices of disadvantaged groups, and embedded inclusive and climate-resilient principles in African transport systems. This chapter consolidates the findings, methodologies, and outcomes of these initiatives, highlighting their contribution to sustainable and equitable transport. It underscores the importance of continued investment in non-motorised transport and resilient infrastructure as vital components of Africa's sustainable transport future

1.3 Aim of the report

This report provides an overview of the activities undertaken as part of the Pan-African Capacity Building Programme project focused on advancing inclusive, active mobility and climate resilience in Africa. This one-year project launched a series of masterclasses designed to empower stakeholders in inclusive and climate-resilient urban planning while promoting active mobility.

We highlight the contribution of our activities to the HVT theory of change (ToC). We assess the sustainability of the project's outcomes, exploring the extent to which the skills, knowledge, and networks developed through the project are likely to continue supporting inclusive and climate-resilient transport systems over the long term.



2. The Challenge of Active Mobility in Africa

Active mobility, such as walking and cycling, plays a vital role in many African countries, especially in low-income communities where access to motorised transport is limited. Walking often serves as the primary mode of transport for accessing essential services such as healthcare, education, and employment. Access to public transport is restricted, with only 31.7% of the population reaching it within 500 to 1000 metres, compared to a global average of 51.6% (UNEP & UN-Habitat, 2022).

Despite one billion Africans spending an average of 56 minutes daily walking or cycling, 95% of roads cannot meet acceptable pedestrian standards and 93% for cyclists (iRAP). As of 2019, only 35% of African countries had established dedicated walking and cycling policies, underscoring the urgent need for improved infrastructure, safety measures, and policies (UNEP & UN-Habitat, 2022).

Several challenges undermine the effectiveness and safety of active mobility in Africa. Inadequate infrastructure, including poorly designed or maintained footpaths, hinders the practicality and safety of walking and cycling (Basil and Nyachieo, 2023). Issues such as inaccessibility for people with mobility challenges, insufficient lighting, and drainage problems contribute to these challenges (NASC/IAP, 2024; Vanderschuren et al., 2022). Furthermore, poor governance often leads to repurposing mobility infrastructure for informal uses, further impacting its effectiveness (Cinderby et al., 2021). Safety remains a significant concern, with a notable rise in road traffic fatalities since 2010, and additional risks such as crime further discourage active mobility (WHO, 2023; Azande et al., 2024).

Social and economic barriers also complicate the situation. The stigma associated with walking and cycling, particularly in urban areas, and cultural norms affecting women and children create additional obstacles (UN Women, 2022). The cost of bicycles can be prohibitive, although subsidised programmes have shown promise in addressing this issue (World Bicycle Relief, 2023). Tackling these challenges requires improvements in infrastructure, safety measures, and social programmes to support active mobility.

Discrimination and inadequate access to inclusive mobility pose significant challenges for people with disabilities (ITDP, 2022). Universal Design (UD) principles, such as equitable use and flexibility, can improve accessibility for all users (NSCU, 1997). Integrating UD into transit design and providing accessible public transport terminals can enhance mobility (Ormerod et al., 2015). Considering psychosocial needs, such as quiet spaces, and adopting disability-inclusive climate change strategies are vital (Nielsen, 2023; UNHCR, 2020).

Active mobility also offers climate benefits, significantly reducing carbon dioxide (CO2) emissions - up to 14% per extra cycling trip and 62% per avoided car trip (Brand et al., 2021). Applying these findings to Africa involves addressing unique challenges, such as underdeveloped infrastructure and extreme weather. Despite these issues, promoting active mobility in African cities is essential for improving public health, reducing road traffic congestion, and supporting sustainable urban development.

2.1 Impact of Climate Change on Active Mobility

A The impact of climate change on transport infrastructure is well-documented, particularly concerning extreme weather events. However, a notable gap remains in understanding how climate risks affect active mobility - such as walking and cycling - especially in tropical, subtropical, and hot climates.

Alongside other measures, including the development of improved public transport systems, enhancing active mobility infrastructure is crucial to creating resilient, low-carbon, and equitable transport networks. As climate change intensifies, the frequency and severity of extreme weather events - like heatwaves, heavy rainfall, and storms - are expected to disrupt active transport modes.

This disruption could exacerbate inequalities for low-income populations dependent on NMT (Regmi and Hanaoka, 2011; Eichorst, 2009).



In 2023, Africa experienced a range of extreme weather events. Severe flooding, droughts, and unprecedented heatwaves were reported across the continent. Storm Daniel caused devastating floods in Libya, resulting in 4,700 deaths and 8,000 missing. Intense rainfall in Kenya, Somalia, and Ethiopia displaced 2.4 million people and led to over 350 fatalities. Cyclone Freddy claimed over 800 lives in Mozambique and Malawi. Central Africa's May floods and landslides resulted in 574 deaths, while recordhigh water levels in the White Nile severely disrupted South Sudan. During July and August, northern Africa endured extreme heat, reaching 49.0°C in Tunis and 50.4°C in Agadir. Mali, Morocco, and Uganda recorded their hottest years, while severe droughts affected Morocco, Algeria, and Zambia, with Zambia experiencing its worst drought in 40 years, affecting six million people (WMO, 2024).

Extreme weather conditions can significantly affect active mobility. High temperatures and heavy rainfall can impact comfort and safety, making walking and cycling less feasible. For instance, high temperatures can render these activities uncomfortable or unsafe, while heavy rain may lead to flooding, disrupting routes used by pedestrians and cyclists (Sabir, 2011; Koks et al., 2019). Such conditions can also affect travel behaviour by influencing departure times, travel duration, and route choices.

Moderate temperatures and dry, sunny weather encourage walking and cycling (Sabir, 2011). However, as temperatures and humidity rise, the attractiveness of these active modes diminishes. This can result in decreased use of public transport as individuals avoid outdoor travel in extreme heat, posing challenges for promoting active travel in hot, dry environments (Eichorst, 2009).

In contrast, adverse weather conditions, including rain, snow, wind, and extreme heat, tend to drive a shift towards sheltered transport options, reducing the frequency of outdoor activities (Creemers et al., 2015; Böcker et al., 2013). In countries with high motor vehicle ownership, the impact of daily weather changes on travel patterns may be less pronounced compared to regions where NMT is more common. Extreme weather events in these contexts could reduce walking and cycling, potentially shifting travel behaviour towards motorised transport if available and affordable, thus further marginalising low-income groups (Karner, Hondula, and Vanos, 2015).

The impact of weather on travel behaviour varies according to regional climate and socio-economic factors. In countries with continental climates, weather has a pronounced effect on travel behaviour, while evidence of its impact in (sub)tropical climates is limited. Individual responses to weather also vary based on ethnic background, lifestyle, age, gender, health, and geographic location (Böcker et al., 2013).

Temperature is a significant weather variable affecting travel behaviour, followed by precipitation and wind (Sabir, 2011). Rising global temperatures due to climate change could make outdoor activities requiring physical exertion, such as walking and cycling, more dangerous. In developed countries, moderate temperatures often lead to increased cycling, although this trend may reverse in extreme heat (Sabir, 2011). Higher temperatures, increased precipitation, and snow present additional road safety risks, which are crucial considerations for promoting NMT and reducing GHG emissions (Creemers et al., 2015).

In summary, weather significantly impacts active mobility, with effects varying by local climate, infrastructure, and socio-economic factors. Addressing these challenges is essential for promoting sustainable, low-emission transport in a changing climate.

2.2 The Dual Challenge: Reducing Emissions and Boosting Resilience

Reducing reliance on motorised private transport is essential to lower emissions and enhance sustainability. Vehicles powered by fossil fuels are major contributors to GHG emissions, which drive climate change and pose severe health risks, including respiratory and cardiovascular issues.

Transitioning towards more sustainable modes of transport, such as walking and cycling, is essential for achieving significant emission reductions and fostering a healthier environment. Unlike motorised transport, walking and cycling produce no direct emissions and can significantly reduce demand for fossil fuel-powered vehicles, easing road traffic congestion and enhancing community connectivity.

Given the increasing impacts of climate change, enhancing the resilience of active mobility infrastructure is essential (Greenham et al., 2022) and plays a critical role in ensuring sustainable, equitable, and climate-adaptive transport systems. The Paris Process on Mobility and Climate (PPMC) provides a



framework for improving transport infrastructure's resilience to climate change. This includes retrofitting existing structures, integrating climate-resilient designs into new projects, and adopting adaptive management strategies. The PPMC advocates for climate risk screening and vulnerability assessments for transport systems and calls for industry-specific technical standards to ensure resilience. It also highlights the need for additional climate finance and improved coordination among agencies involved in transport projects (PPMC, 2015).

Complementing the PPMC's recommendations, the ROADAPT (Roads for Today Adapted for Tomorrow) guidelines offer a four-stage framework for adapting road infrastructure to climate change. This framework involves identifying risks, assessing and prioritising these risks, developing and selecting adaptation strategies, and integrating these strategies into decision-making processes (World Road Association, 2015).

Further adaptation strategies for road transport are detailed by Meyer et al. (2017) and the C40 Cities Climate Leadership Group (2018), focusing on walking and cycling. Measures include improving drainage infrastructure to manage more intense rainfall events and prevent flooding, installing elevated infrastructure in flood-prone areas and using porous pavements for pedestrian and cycling routes (C40 Cities Climate Leadership Group, 2018).

Several measures are proposed to address extreme heat. Increasing greenery in pedestrian and cycling areas helps lower outdoor temperatures. Installing drinking fountains and providing shade further reduces heat exposure. Adaptation strategies also recommend using high solar reflectance materials for pavements to decrease surface temperatures and designing cycling routes through parks to utilise natural cooling (C40 Cities Climate Leadership Group, 2018). Green infrastructure is essential for mitigating urban heat, alleviating surface flooding, and providing shade, which supports active transport (Tuhkanen et al., 2022).

To tackle the rising sea levels, measures include creating vulnerability maps to identify the most at- risk areas and improving drainage systems. These include installing underpass pumps and elevating existing pedestrianised areas and cycling lanes in high-risk zones. Strategies in drought include risk mapping to assess the potential impacts on cycling and pedestrian infrastructure and increasing asphalt maintenance in these areas (C40 Cities Climate Leadership Group, 2018).

Several cities provide practical examples of these strategies. In Medellín, Colombia, the "Green Corridors" initiative has introduced 8,300 trees and 350,000 shrubs along major roads and waterways. This project has provided shade, cooled urban areas, and encouraged active mobility while enhancing biodiversity. It has notably reduced temperatures along key roads, aiding the city's adaptation to climate change and improving residents' quality of life (C40 Cities Climate Leadership Group, 2018).

In Los Angeles, USA, the urban heat island effect has been addressed by applying reflective materials to surfaces in the hottest neighbourhoods. This intervention, costing approximately £0.60 per square foot, has successfully reduced surface temperatures by up to 5.5°C. The city is also experimenting with cooling materials on cycle lanes to support active mobility in a warming climate (C40 Cities Climate Leadership Group, 2018).

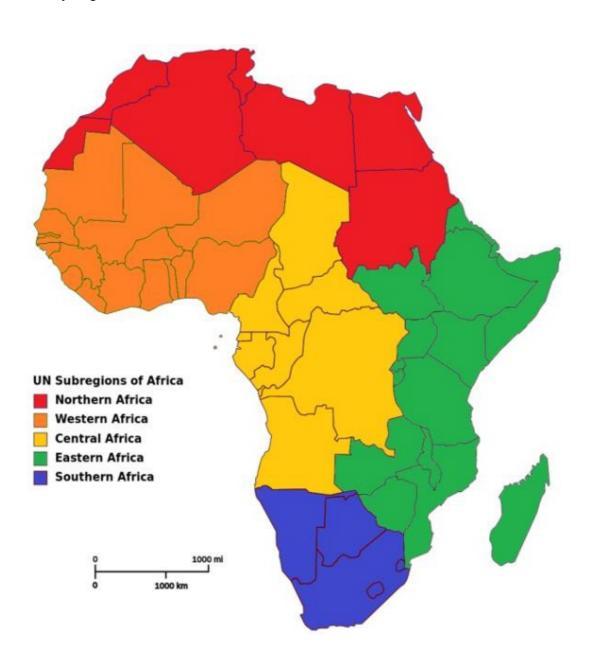
Shanghai, China, has embraced the "sponge city" concept, which involves the integration of green infrastructure such as rain gardens, permeable pavements, and green rooftops to manage water flow and mitigate the impacts of climate change. In the Lingang district, these measures have effectively controlled water flow and reduced the risks associated with sea-level rise while also improving urban well-being and environmental quality (C40 Cities Climate Leadership Group, 2018).

These case studies illustrate how cities actively adapt their infrastructure to promote active mobility and enhance resilience to climate change, ultimately improving urban environments' overall sustainability and liveability.



3. Pan-Africa Action Plan for Active Mobility

The Pan-African Action Plan for Active Mobility (PAAPAM) is a strategic initiative led by the United Nations Environment Programme (UNEP), UN-Habitat and World Health Organization (WHO) in collaboration with various partners (e.g. GIZ, Dutch Government), including the HVT programme. Its principal aim is to enhance the role of active mobility across Africa by providing a comprehensive framework to guide governments and stakeholders in implementing key actions over the next decade. The focus is on promoting healthy, safe, equitable, and sustainable transport options, particularly for walking and cycling.





The initiative is structured around several core objectives:

- **Defining Priorities:** PAAPAM outlines common priorities for walking and cycling, offering a structured checklist for governments to utilise in prioritising and guiding actions at both national and local levels.
- Elevating Active Mobility: The plan highlights the critical role of active mobility in addressing challenges such as climate change, air quality, and road safety while recognising its broader social and environmental benefits.
- **Stimulating Investment:** PAAPAM seeks to stimulate increased investment in walking and cycling infrastructure by engaging national and local governments, development banks, foundations, and the broader development community, including mobilising climate finance.
- Facilitating Dialogue and Knowledge Exchange: The initiative fosters regional dialogue and the exchange of best practices across Africa, enhancing stakeholders' capacity to implement effective active mobility policies and programmes.
- Monitoring Progress: PAAPAM establishes key performance indicators to enable governments to monitor and assess progress in promoting active mobility.

The development of PAAPAM has involved an extensive consultative process with stakeholders through both virtual and in-person sessions. These consultations have helped to identify key action areas and success indicators. The official regional consultation process began at the Walk21 conference in Kigali in October 2023.

Consultations have been conducted in East, Southern, and West Africa, including an in-person workshop in Cape Town in March 2024 and three regional remote sessions in July 2024 (see Appendix A). Additional consultations took place in September November for Central and North Africa, with the first version of the PAAPAM framework being launched at the World Urban Forum in Cairo, Egypt, in November 2024 with senior management from five UN Agencies. In addition, a presentation of the project was given at the African Development Bank's African Transport Forum in Abidjan, Côte d'Ivoire on 18-20 September 2024.

Region	Remote Sessions	In-person Masterclass	Location
Central Africa	11 September 2024		
Northern Africa		5 November 2024	Cairo, Egypt
East Africa	25 July 2024	17-22 November 2024	Addis Ababa, Ethiopia
West Africa	23 July 2024	26-27 November 2024	Accra, Ghana
Southern Africa	25 July 2024	7-8 March	Cape Town, South Africa

PAAPAM represents a pivotal initiative to transform transport across Africa by prioritising active mobility. This initiative focuses on 3 action areas (see Figure 1) and contributes to healthier, more sustainable, and equitable urban environments.





Figure 1: PAAPAM Action Areas and Plans



4. Enhancing Capacity and Increasing Awareness of Active Mobility

According to the project's needs assessment, key requirements for promoting active mobility in African countries include aligning city objectives with national goals, integrating sustainable urban mobility into planning, and prioritizing walking and cycling. Investment in secure infrastructure, effective leadership, and diverse funding strategies are essential.

Advocacy for policy changes, quantifying the benefits of NMT, and facilitating knowledge exchange for safety and equity are also crucial. Streamlining policy implementation and supporting local initiatives like car-free zones enhance active mobility. The needs assessment findings were integrated into the masterclass design.

To empower participants, in-person masterclasses and online workshops were organised in various African subregions. The project also monitored and evaluated the masterclasses to assess awareness, knowledge, and skill development while widely communicating and disseminating training materials to reach a broader audience.



Figure 2: Al-generated image of Cairo when inclusive transport principles are used in city design

Building on the Guidance Framework on Creative Participatory Approaches for Inclusive Climate-Resilient Transport in Africa, the masterclass aligned with PAPAAM focusing on policy frameworks, human capacity building, financing strategies, and inclusive infrastructure design. Participants explored integrated land use and transport planning, addressed climate change impacts, and promoted gender equity in mobility policies, processes or structures.

It also included participatory methods to include the voices of disadvantaged groups by using creative tools and AI that can be used for stakeholder engagement in developing climate-resilient infrastructure.



Through the training programme, participants gained valuable insights and skills to enhance sustainability in urban transport planning.

We had over 229 participants across all trainings held in the five regions of north, south, east, west, and central Africa. Specifically, participants came from Burundi, Congo-Brazzaville, Egypt, Ethiopia, Ghana, Ivory Coast, Kenya, Liberia, Malawi, Mali, Mozambique, Nigeria, Rwanda, Tanzania, Uganda, Zambia, Namibia, Lesotho, Botswana and Zimbabwe. Participants in the room include representatives from the municipal or local governments, directors at relevant ministries, especially transport and gender and diversity, government strategy advisors, city planners, private sector and entrepreneurs, international organisations, civil society and a wide range of academics from universities from all regions.

The masterclasses increased awareness and knowledge among participants, empowering them to plan and implement more inclusive and climate-resilient urban transport solutions. Participants emphasised the importance of fairness: everyone should have equal access to opportunities and services, no matter where they live or how much they have. Government officials acknowledged the importance of diverse viewpoints, emphasizing that while infrastructure is essential, it is equally important to address the needs of disadvantaged groups. Failing to consider these needs could undermine the effectiveness of government investments.



5. Project Achievements and Impact

At the continental level, our partnership with UNEP culminated in the launch of the first Pan-African Action Plan for Active Mobility at the World Urban Forum in Cairo, Egypt, in November 2024. This landmark achievement represents a significant step towards a fairer and more sustainable transition in the transport sector, with three countries (Malawi, Ghana and Kenya) already officially committed to the programme, including five Ghanian cities. By embedding active mobility principles - including NMT into national and regional policies, PAAPAM is driving equity, health, and environmental benefits while advancing systemic change in Africa.

The masterclass programme, which covered inclusive and climate-resilient urban transport, had a strong regional impact (Resources available on the UNEP website for PAPAM: https://www.unep.org/topics/transport/active-mobility/pan-african-action-plan-active-mobility). Over 229 participants from government ministries and civil society organisations across Africa engaged in a combination of in-person workshops and online sessions. These initiatives equipped participants with practical skills in participatory transport planning, enabling them to address local challenges. As a result, participants are sharing their knowledge, driving further learning and innovation within their organisations and communities.

These achievements align directly with the HVT Programme's ToC, supporting its goals of fostering sustainable, inclusive, and climate-resilient transport systems. The launch of PAAPAM exemplifies progress towards the ToC's ultimate impact, while the masterclasses programme addresses key intermediate outcomes, such as strengthened capacity and knowledge exchange. Through its targeted interventions and advocacy, the project has made a lasting impact on active mobility in Africa, ensuring that its achievements will continue to resonate across the continent.

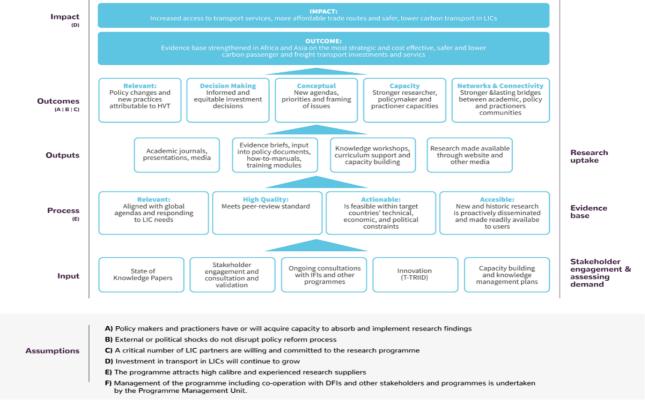


Figure 3: HVT Theory of Change



5.1 Strengthened Capacity

The masterclass programme trained over 229 participants from government ministries and civil society organisations, equipping them with the skills to address climate risks to transport infrastructure and promote active mobility (see Appendix B). A key aspect of the training involved using AI to envisage what future inclusive, safe, accessible, and climate-resilient transport systems could look like.



Figure 4: Cross section of participants of one of the masterclasses

The masterclasses highlighted the vulnerabilities of transport infrastructure to climate change, such as flooding, heat stress, and deterioration, and explored solutions that integrate adaptive measures into planning drawing on HVT knowledge products. Participants examined how active mobility - walking, cycling, and other low-carbon modes - could help create sustainable and accessible transport networks, particularly benefiting disadvantaged groups.

Al tools were used to visualise future transport scenarios, demonstrating how inclusive and resilient systems might operate under varying climate and urbanisation conditions. These tools enabled participants to explore factors such as equitable access, infrastructure durability, and emission reductions, offering a forward-looking perspective on sustainable transport planning.

By combining participatory mapping techniques with Al-driven scenario modelling, the masterclass programme provided a practical framework for designing transport systems that prioritise inclusivity and climate resilience. Participants were encouraged to share their knowledge with colleagues, fostering a collective approach to improving transport governance and planning across regions.

This innovative use of AI, alongside a focus on active mobility, underscored the importance of preparing transport systems to withstand climate challenges while ensuring they remain safe, accessible, and equitable for all.

5.2 Increased Awareness

Awareness is a key enabler within the HVT Programme's ToC, underpinning critical outcomes such as informed decision-making, stronger networks, and accessible outputs. The project used a targeted communication strategy to increase awareness of active mobility's benefits and foster engagement among stakeholders. This strategy included leveraging platforms such as <u>SEI</u>, <u>HVT</u>, <u>UNEP</u>, and <u>University of York</u>, to disseminate content and insights widely.

The SEI website, as the project's central hub, achieved a 57.39% click-through rate, demonstrating substantial reach and interest. These efforts highlighted the role of walking and cycling in sustainable transport, directly supporting conceptual change and driving informed investment decisions. By ensuring



broad dissemination and engagement, the project reinforced the ToC's goal of making outputs accessible, actionable, and impactful.



Figure 5: Dr Gary Haq and Prof Steve Cinderby's presentation on Inclusive Transport at the World Urban Forum

The project rolled out multiple communication outputs to capture attention and drive participation, including effective promotional materials for events like the first <u>masterclasses</u> conducted in South Africa. Additionally, an insightful <u>opinion piece</u> highlighting Africa's dedication to active mobility attracted over 100 views, successfully sparking interest and encouraging dialogue. Throughout the project's lifespan, a dynamic <u>series</u> of social media <u>posts</u> and captivating <u>short video</u>s were produced, effectively showcasing active mobility efforts and inspiring widespread involvement.

5.3 Stronger Networks

By joining forces with PAPAAM, the HVT programme has been able to contribute significantly to its ToC on networks and connectivity, demonstrating how strategic collaborations enhance knowledge exchange, strengthen partnerships, and drive the integration of sustainable mobility solutions into both global and local agendas."

PAPAAM has successfully built strong networks and fostered meaningful connections among stakeholders, ranging from local communities to international organisations. Partnerships with key entities such as ITDP, WRI, World Bicycle Relief, GIZ, FIA Foundation, WHO, UN-Habitat, UNECE, and the Dutch Ministry of Infrastructure and Water Management were instrumental in shaping the PAAPAM framework. These organisations provided in-kind support, reviewed the framework, and offered targeted feedback to ensure alignment with global standards and regional priorities.

The masterclass programme supported by HVGT further amplified PAPAAM's impact by facilitating knowledge exchange and capacity building. This collaboration strengthened PAPAAM's integration into broader transport and urban planning initiatives, creating synergies with other active mobility efforts.

The masterclass programme showcased the value of local insights, with the City of Cape Town leading interactive sessions tailored to South African urban challenges. Contributions from Addis Ababa and Accra added further depth, ensuring local relevance and ownership of active mobility solutions. The University of Cape Town also played a pivotal role in linking research with policy by supporting government representatives at the Africa Transport Research Conference. Using a "World Café" format,



the conference fostered dynamic discussions between policymakers, researchers, and other stakeholders, advancing PAPAAM's core objective of translating evidence into actionable strategies.

PAPAAM's collaborative approach has established a sustainable network of advocates NMT. By connecting local expertise with international perspectives, the project has embedded active mobility into global transport agendas, driving long-term improvements in urban mobility. Its enduring impact lies in its ability to inspire practical changes while maintaining relevance within broader sustainability frameworks.

5.4 Impact and Continuation

The launch of PAPAAM has institutionalised NMT within national and regional policies, embedding walking, cycling, and other sustainable transport modes into policy agendas. As a result, these principles are gaining traction, ensuring sustained investment and support for NMT initiatives, and securing a long-term commitment to active mobility. Malawi, Ghana and Kenya have officially signed up to implementing PAPAAM (including five cities in Ghana).

PAPAAM has addressed key gaps in NMT infrastructure, improving safety and accessibility for walking and cycling. The masterclass training has equipped participants to advocate for essential improvements, including pedestrian crossings, street lighting, and road markings. This has fostered collaboration, with participants sharing best practices to enhance transport systems and resilience in African communities. Feedback highlights a growing recognition of the importance of walkable and cyclable streets, with participants increasingly seeking institutional support to make inclusive NMT a central aspect of urban planning.



Figure 6: The PAAPAM Action Plan launched at the World Urban Forum 2024

International organisations such as UNEP, WHO, and UN-Habitat have played a key role in supporting PAPAAM's principles, reinforcing the project's integration into broader global frameworks. UNEP's continued involvement has been particularly vital, helping elevate the project's objectives in international discussions on sustainable mobility.

By fostering local ownership, securing international support, and embedding NMT into policy, PAPAAM has ensured the sustainability of its impact, aligning with the HVT Programme's ToC. These efforts have established a strong foundation for the continued promotion and expansion of active mobility beyond the project's conclusion.



6. Lessons Learned

6.1 Key Succes Factors

By collaborating with UNEP, the HVT Programme has harnessed a critical mass of expertise and a broad international partnership network resources to deliver meaningful outcomes. This partnership enhanced the project's impact by fostering synergies and pooling resources among partners. The following approaches were key to the success and sustainability of this project.

Embedding the Work within Existing Long-Term Programme

A significant factor was situating PAPAAM within UNEP's long-standing Share the Road programme, which has been in operation since 2008. By building on this established initiative, PAPAAM was able to draw on over a decade of institutional experience, existing staff expertise, and well-established networks. This approach provided a robust foundation and ensured the project was not starting from scratch but instead leveraging a recognised programme with a proven track record. The Share the Road initiative's credibility and momentum enhanced stakeholder engagement and collaboration, facilitating smoother implementation and strengthening the project's legitimacy.

Strategic Alignment with Other Initiatives

Rather than operating in isolation, PAPAAM strategically aligned itself with other existing frameworks and initiatives (e.g. Agenda 2030, The Sustainable Development Goals (SDGs); Agenda 2063, The Africa We Want; Walking and Cycling in Africa: Evidence and Good Practice to Inspire Action; International Charter for Walking; African Road Safety Charter and the Global Outlook on Walking and Cycling) to ensure coherence and maximise impact. By complementing initiatives such as Share the Road, PAPAAM avoided duplicating efforts and ensured its activities were synergistic with broader goals for promoting walking and cycling. This alignment strengthened regional partnerships and extended the project's reach, ensuring that PAPAAM's contributions integrated seamlessly into Africa's wider context of sustainable and inclusive transport.

These strategies highlight the importance of building on established programmes and aligning with existing frameworks, enhancing efficiency and enabling a unified approach to advancing active mobility and sustainable transport across the region.

Building Consensus Through Active Engagement and Consultation

The success of the PAAPAM was founded on active collaboration with city and national authorities across Africa. Prior to its launch, a detailed consultation process was undertaken, including in-person workshops, regional virtual sessions, and discussions at international events. Key milestones included the Walk21 conference in Kigali, where the regional consultation process was officially initiated, and the World Urban Forum in Cairo, where the first version of the PAAPAM framework was launched with senior representatives from five UN agencies. Additional in-person workshops were conducted in Cape Town in March 2024, alongside virtual regional sessions in East, Southern, and West Africa in July 2024, and further consultations in North and Central Africa in November 2024.

This approach ensured the action plan was tailored to the unique challenges and priorities of African cities and regions. By engaging local authorities, policymakers, and civil society, the programme fostered a sense of ownership and alignment, creating a strong foundation for effective implementation and long-term sustainability.

6.2 Challenges Encountered

While the project achieved significant success, several challenges arose during its implementation, mainly related to coordination efforts. These required innovative solutions and adaptive planning to ensure progress and maintain focus on objectives.



Reliance on UNEP and associated delays

The project's reliance on UNEP processes, particularly for legal and administrative approvals, sometimes caused delays. These disruptions affected the timeline and delivery of planned activities. To address this, the project team maintained close collaboration with UNEP staff, streamlined communication, and adjusted schedules to meet critical milestones despite procedural bottlenecks.

Logistical and stakeholder engagement constraints

Coordinating activities across multiple countries and engaging diverse stakeholders posed logistical challenges. Limited availability of participants for in-person workshops further hindered engagement. These challenges were mitigated by leveraging virtual platforms for meetings and adopting flexible scheduling to accommodate stakeholders' availability.

Limited Scope of Active Mobility

The focus on active mobility restricted the extent to which broader HVT research findings could be applied. HVT research often addresses systemic transport and infrastructure issues, which did not always align with the active mobility agenda. To overcome this, the project team identified complementary areas, such as using HVT insights to improve urban road safety and reduce congestion, reinforcing active mobility interventions' value.

Climate Change as a Lower Priority

Climate change was often overshadowed by more immediate policy concerns in the context of active mobility, such as road traffic congestion, safety, and economic development. The project addressed this by raising awareness of how climate impacts—such as extreme weather and rising temperatures—affect active mobility and infrastructure. It demonstrated how tackling these issues through improved active mobility could deliver co-benefits, including climate resilience, thereby encouraging governments to integrate climate considerations into transport planning.

The project successfully navigated these challenges through proactive communication, strategic framing, and flexible planning, meeting its objectives and advancing the agenda for active mobility and climate resilience.

6.3 Recommendations for Future Projects

To support the advancement of sustainable, inclusive, and climate-resilient active mobility across Africa, the following recommendations are proposed for policymakers, development partners, and stakeholders:

Develop Comprehensive Policy Frameworks

Governments should embed active mobility into national and city-level transport and urban planning strategies. These frameworks should align with broader goals, such as improving road safety, public health, and urban liveability, while addressing climate change.

Secure Strong Political Commitment

Political will is essential for the success of active mobility initiatives. Governments should commit to measurable targets, such as allocating a fixed percentage of transport budgets to walking and cycling infrastructure and prioritise these elements in flagship urban development projects.

Promote the Co-Benefits of Active Mobility

Active mobility should be framed as a solution to pressing local challenges—such as congestion, safety, and accessibility - while also contributing to long-term climate resilience and carbon reductions. More research is needed to explore the impacts of climate change on active mobility and identify effective mitigation measures.



Increase Investment in Infrastructure and Maintenance

Sufficient funding is critical to develop and maintain inclusive, accessible, and climate-resilient infrastructure. Long-term maintenance plans should be integrated into infrastructure budgets to ensure sustainability.

Build Capacity Across All Levels

Policymakers, urban planners, and engineers should be equipped with the skills to design, implement, and manage active mobility projects. Training programmes should address technical, planning, and community engagement needs to create infrastructure that benefits all users.

Raise Public Awareness

Cultural shifts towards walking and cycling require public awareness campaigns that highlight the health, economic, and environmental benefits of active mobility. These campaigns should target diverse audiences, from schoolchildren to business leaders, to encourage widespread behavioural change.

Enhance Regional Coordination and Knowledge Sharing

Regional organisations, such as the African Union, should harmonise active mobility policies and promote collaboration across member states. Platforms for sharing best practices, data, and case studies will facilitate the replication of successful approaches.

Prioritise Inclusivity

Infrastructure should be designed to address the needs of women, older people, children, and persons with disabilities. Governments and stakeholders must adopt universal design principles to create safe and equitable access for all.

Engage the Private Sector

Private sector involvement should be encouraged through workplace cycling schemes, infrastructure sponsorship, and public-private partnerships, which can support large-scale active mobility initiatives.

Strengthen Data Collection and Evaluation

Robust monitoring and evaluation systems are essential for tracking progress, identifying gaps, and enabling evidence-based decision-making. Investments in data collection will also provide insights into the impact of active mobility initiatives.

Support Demonstration Projects

Pilot projects in cities can showcase the benefits of active mobility, serving as practical examples that inspire broader adoption and scaling across regions.

Integrate Active Mobility with Urban Transport Systems

Walking and cycling infrastructure should be seamlessly integrated with public transport networks to create multimodal urban transport systems, facilitating last-mile connectivity and improving overall accessibility.



7. Conclusion

7.1 Summary of Impact

The Pan-African Capacity Building Programme on Inclusive Climate Resilient Planning for Active Mobility has had a measurable impact, advancing active mobility and climate resilience across Africa. Furthermore, the programme's insights have established a replicable model for other regions, including Asia, where UNEP is engaging with donors to develop a Pan-Asian Action Plan for Active Mobility. Central to PAAPAM's success is its emphasis on fostering local ownership by partnering with diverse organisations and initiatives to adapt and implement the plan to reflect regional needs.

Below is a summary of the project's key outcomes and contributions:

7.1.1 Key Achievements:

1. Pan-African Action Plan for Active Mobility (PAAPAM):

PAAPAM was launched at the World Urban Forum in Cairo, representing a significant milestone in advancing sustainable and equitable transport systems across Africa. This strategic framework serves as a guide for promoting walking and cycling as integral components of urban transport.

PAAPAM's regional influence is underscored by commitments from Ghana, Kenya, and Malawi, as well as five cities in Ghana, to embed active mobility into their transport policies and planning processes.

2. Capacity Building and Stakeholder Engagement:

The project delivered masterclasses across five African subregions, engaging over 229 participants from diverse sectors, including government, civil society, and academia. These training sessions focused on inclusive transport planning, climate-resilient infrastructure, and participatory approaches to policymaking. By equipping participants with the skills to integrate active mobility into urban planning, the initiative strengthened their ability to address key challenges and drive systemic change.

3. Local Ownership and Adaptation:

Collaboration with regional organisations and initiatives ensured that capacity building was adapted to local contexts, enhancing their relevance and effectiveness. Stakeholders were empowered with the tools and knowledge needed to implement active mobility strategies successfully. Partnerships between government bodies, civil society, and local communities were also fostered, encouraging long-term ownership and sustainability of the initiatives.

4. Knowledge Dissemination:

A communication strategy, delivered via SEI and UNEP platforms, achieved a remarkable online engagement rate of 57%. This approach extended the programme's reach, ensuring that its tools and findings were widely accessible. The dissemination efforts amplified awareness of active mobility's benefits and provided stakeholders with resources to advocate for change.

5. Long-Term Benefits:

The masterclass programme empowered stakeholders to champion sustainable and inclusive transport systems, contributing to safer, more accessible urban environments. PAAPAM and its associated training activities established a foundation for ongoing collaboration and investment in active mobility infrastructure. By integrating with existing frameworks, such as UNEP's Share the Road initiative, the project ensured alignment with regional priorities. Local ownership was also strengthened, as communities were equipped with the capacity to lead and sustain active mobility initiatives over the long term.



6. Broader Impact:

PAPAAM showcased the co-benefits of active mobility, including improved health, enhanced safety, and strengthened climate resilience. It fostered a cultural shift towards walking and cycling while enhancing regional coordination, enabling the sharing of knowledge and the replication of successful strategies across Africa.

7. Measurable Outcomes:

Through its efforts, the masterclass programme trained over 229 stakeholders in inclusive, climate-resilient approaches, enhancing their capacity to implement active mobility strategies. It secured policy commitments from Ghana, Kenya, and Malawi, embedding active mobility into national and regional priorities, along with commitments from five cities in Ghana. Additionally, discussions are underway to replicate the model in Asia, with plans for a Pan-Asian Action Plan for Active Mobility. This initiative provides a blueprint for tackling urban mobility challenges, blending inclusivity, sustainability, and resilience while ensuring measurable impacts and strong local ownership through meaningful partnerships.

7.2 Future Outlook

The future of the PAAPAM offers considerable potential for sustained impact, thanks to the collaborative efforts of UNEP, UN-Habitat, and WHO and many other partners. This collective endeavour brought together expertise, research, funding, and strategic collaboration to create a framework tailored to the diverse needs of African cities and nations. The plan reflects shared priorities in promoting inclusivity, climate resilience, and sustainable urban transport systems.

Looking forward, continued partnerships with governments, civil society, and regional stakeholders will be essential to embedding PAPAAM into local and national policy. The integration of PAAPAM into existing programmes, such as UNEP's Share the Road initiative ensures coherence with global sustainability objectives and facilitates long-term implementation. Efforts to replicate this model in Asia highlight its broader applicability and its potential to inform international policy and practice.

PAAPAM represents a landmark initiative, seamlessly blending research and practice to create healthier, safer, and more equitable transport systems across Africa, while providing a blueprint for scaling sustainable transport innovations and climate-resilient solutions globally.



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Appendix A: TRAINING TOOLS AND ASSESTS

A. Participatory Mapping Tools

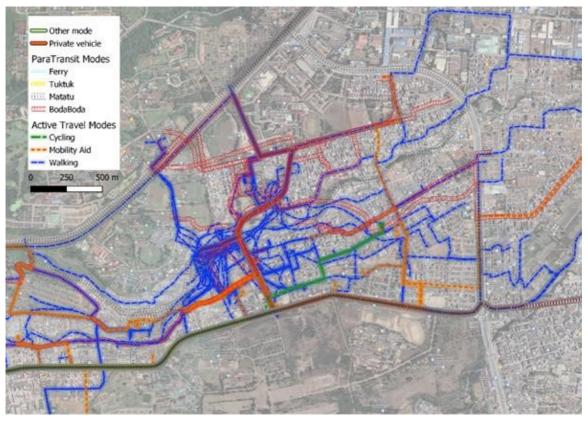


Figure 7: We asked people to mark their important journeys - and the modes they used



Figure 8: We looked at the positive locations for safety and well-being and the challenging places for mobility. By linking the maps to the demographics, we can look at differences between men and women's mobility experiences



B. Generative Image AI (GenImAI) tools to produce representative future visions of cities



Figure 9: Before and after image of a street in Lusaka, Zambia, as an example of using Al to generate new visions for cities suitable for both technical and non-technical audiences, which can be used for stakeholder engagement.

C. Delphi Method

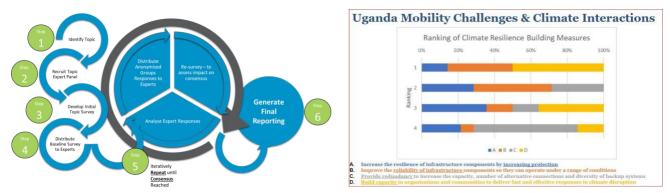


Figure 10: An example of the kind of reporting used during the masterclass on Delphi approach when used by participants for evidence-based decision-making



D. Digital products

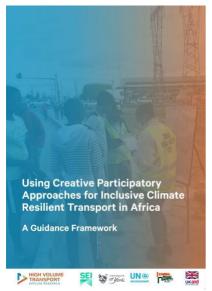








E. Other Referenced Tools







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Tel: +44(0)1904 322897 Web: <u>www.sei.org</u>



