

CLIMATE CHANGE RESILIENCE IN URBAN MOBILITY IN ACCRA

REPORT ON THE KICK-OFF WORKSHOP

Alisa Swiss Spirit Hotel, North Ridge Accra, Ghana

June 27, 2018.



Group picture of participants (June, 2018)

INTRODUCTION

The Climate Change Resilience in Urban Mobility (CLIMACCESS) is a collaborative Danida supported research project involving the University of Copenhagen, University of Ghana and the Council for Scientific and Industrial Research (CSIR) of Ghana. The project aims at identifying research-based strategies for increasing climate change resilience within urban mobility, accessibility and transport in Accra, Ghana. It was to establish a comprehensive understanding of the physical and factors that determine resilience to climate change impact on mobility and accessibility in Accra metropolitan area (AMA). The workshop was conducted to inform

stakeholders of the purpose and nature: content and process, of the project and to solicit inputs and support from them.

The programme started at about 9:30 am with Prof. Paul Yankson calling participants to attention, introduced himself and gave a brief welcome address, after which he invited Dr. Albert Allotey to give the opening prayer. The Chairperson, Prof. Rose Emma Mamaa Entsua-Mensa, Deputy Director-General of the Council for Scientific and Industrial Research (CSIR) was then introduced by Dr. Richard Kofie. In her opening remarks the chairperson expressed, among others her delight and excitement about the institutional composition of the research collaboration; in her opinion, collaboration between the universities and other research institutions in a research such as the CLIMACCESS is very encouraging.

PRESENTATIONS

On the object of having stakeholders know and appreciate CLIMACCESS, four separate presentations were made; on the background to the project and topics relative to the various ‘work packages’, by the project team from the University of Copenhagen. The presentation topics and presenters were as follows:

(a) Lasse Moller-Jessen

How do rain events influence the transport network and the mobility of urban residents?

Professor Moller-Jessen gave an overview of the CLIMACCESS project, where he focused on the objectives, through the relevance, to the approach of the project. He outlined the problem of floods in Accra with respect to its history and the impacts of flood especially with respect to the disturbance of route (mainly road) network. He also added that Accra has developed rapidly over time with its population explosion and this has contributed to the floods situation.

(b) Thomas Balstrom

“How can we identify flood-prone areas (“blue spots”) from city-wide terrain models?”

Professor Balstrom made a presentation titled ‘*How can we identify flood prone areas (“blue spots”) from city-wide terrain models?*’ According to him, often the real world situation is not reflected in models. He expulsed on the importance of the screening method and the data required

as well as local sinks or *bluespots* in determining spill overs. He ended that the screening method is not yet ready for predicting flood levels in Accra. Additional models and data are needed. For example, reports from flood extend to produce flood zone role maps based on elevation model.

(c.) Thomas Friborg

“How can local risk of flooding be analyzed using drone?”

Professor Friborg presented some modern day new development remote sensing data collection using especially UAV right Detection and Raging (LIDAR) on the topic ‘*How can local risk of flooding be analysed using drones?*’ He warned of some challenges in using drones with respect to logistics and legal implications.

(d) Jytte Agergaard

“Extreme weather-induced flooding vulnerabilities and community resilience practice in Accra”

Professor Agergaard talked on ‘*Work Package A, Urban Mobility Pattern*’, where she outlined the methodologies to resilience at multiple scales at household level or settlement, household and community levels. She also emphasised on the need for population density data.

These presentations provoked some inputs and questions from stakeholders that were duly responded to by presenters and other participants. Below are some of the captured HIGHLIGHTS of questions asked and their respective responses.

INPUTS, QUESTIONS & RESPONSES

DR. Emmanuel Tachie-Obeng of the Environmental Protection Agency (EPA) of Ghana postulated that flooding as experienced in recent times in Accra is a climate changed induced phenomenon. As a consequence, policy actions have been considered and taken with the aim of trying to change the nature of drainage infrastructure in the country. Dr Tachie-Obeng indicated that he looks forward to see “How the research can direct policy on the design of drainage infrastructure in the country”.

1. Madam Pat Onny of Department of Urban Roads posited that some documents and tools are critical pre-requisites for the success of the research project and sought to know if these

have been accessed. She lamented how people's attitudes (way of life) contribute to the flood situation in the city of Accra.

In response, Prof. Lasse Moller-Jensen indicated that the research team would make do with what is available and utilize all other information that is recommended by the relevant stakeholder institutions.

Prof. Paul Yankson also indicated that national policies in certain cases are not readily available but that the team would look at the relevant national policy documents, and as part of the research, stakeholder institutions hopefully, would help in providing some more data. He reiterated the importance of institutional collaboration in this regard,

2. Dr. Emmanuel Obeng Bekoe of the Water Research Institute (WRI) of CSIR, in reaction to Prof. Balstrom's presentation with specific reference to the hydrological cycle model lamented the lack of data, particularly on run-off water.
3. Mr. Alex Amoah of the Ga East Municipal Assembly hinted that on the matter of data on flood prone areas, selected MMDAs could be of help in providing flood history, data on water levels and 'blue-spots'. He wondered why the blue-spots in the country are not functioning as reservoirs and that the time for a policy to protect the blue-spots is now.

Mr. Amoah further informed the house of some work done on floods by WRI in Collaboration with National Disaster Management Organisation (NADMO) and Accra Metropolitan Assembly (AMA). He indicated the availability of a flood risk map of the Odaw Basin of Accra which was produced in 2017 and that for 2018, another flood Risk map of the greater Accra area is under construction.

In response to this information Prof. Paul Yankson said the stakeholder briefing workshop is intended to solicit such relevant information from the stakeholders.

4. Dr. Emmanuel Tachie-Obeng once again reported the availability of a climate change master plan in the area of urban planning with suggested seven (7) policy areas and action plans, whose focus areas resonate with the focus of the research.

In response to this the chairperson suggested that Dr. Tachie-Obeng could help the team access the document.

5. Miss Saviour Alamatu of the Ghana Geological Survey Authority also informed the house that the Greater Accra Metropolitan Assembly (GAMA) has data on flood prone areas.

STAKEHOLDER BRIEFS

After the plenary discussion of the presentations, four stakeholder institution namely; Department of Urban Roads of Accra Metropolitan Assembly (AMA), National Disaster Management Organisation (NADMO), the Ghana Private Road Transport Union (GPRTU) and the Water Research Institute of CSIR took leadership to brief the workshop. The following key highlights were captured during the discussion:

- Urban Roads: Due to inadequate funding focuses largely on the construction of secondary drains and are only able to do dredging and desilting of primary drains.
- There is no collaboration between Hydrological Services Department and Urban Roads. As a result, standards and measurements in the construction of drains do not match with or respond to the volumes of run-off water.
- Documents exist within the Department that organisers of the CLIMACCESS project can fall on by applying to the Director of the Department.
- NADMO: Listed among others the causes of disasters in Ghana as flood, earthquake, population increase, poor enforcement of building regulations and by-laws, planning deficiencies, climate change (heavy rainfall as in recent time), and poor maintenance especially of drainage systems.
- Floods disrupt economic activities in general -industries, markets, and roads.
- Policies (or master plans) of the Organisation to address floods over the years exist.
- There is a strong call for collaboration with, especially the Hydro Division.
- GPRTU can help AMA with the identification of flood prone areas in the Metropolis where flood waters impede transport and mobility. In a responds to a question posed by Prof. Martin Oteng-Ababio, examples of such areas were identified as:
 - Santa Maria
 - Ofankor lorry station
 - Blue Kiosk drainage area at North Industrial area

- Glefe, beyond Dansoman last stop
- On the matter of hazards and dangers of floods, the GPRTU representative lamented the inadequate public education by the National Road Safety Commission.
- CSIR-WRI: Water Research Institute carry out research among others on surface water in the country and has data on floods and water quality.
- The Institute has a reliable rainfall data from 1974 to date on Accra and willing to collaborate with the project in data sharing.

Questions and comments

A number of perspectives emerged in the general discussion. Several participants noted the failure of the country to address flood problems over the years and the continued presence of undisciplined persons who dump waste into water channels and thus compound the menace of flood occurrence in Accra.

They highlighted the need for institutional collaborations especially for data sharing towards the success of the CLIMACCESS project at the end of the five (5) years. To this end, the Chair advised that institutions, especially the academia should duly be acknowledged for all pieces of information or datasets that are obtained. She admonished that data exists and that institutions should share such data to make CLIMACCESS successful. She stated that for example, the Odaw Basin has been extensively researched and data can be sourced from WRI of CSIR. A participant from Geological Survey Authority suggested that data exist on similar flood modelling works undertaken by the Authority under its GAMA project.

WRAP-UP & CLOSURE

Prof. Lasse Moller-Jensen expressed gratitude to the participants and highly acknowledge their contributions to the workshop's deliberations. Professor (Mrs) R. E. M. Entsua-Mensa, the Chair, in her closing remarks expressed delight at the constitution of participants who came from diverse backgrounds and highly commended them for finding time to honour the invitation to the workshop. She hoped that both team members and the stakeholders would work together to achieve the objective of the CLIMACCESS project. Prof. Martin Oteng-Ababio gave the vote of thanks and this was followed by a closing prayer by Dr. Albert Allotey.

This report is authored/edited by: Dr Richard Kofie and Lasse Møller-Jensen

Rapporteurs: Mr Prince Martin Gyekye and Mr Abdallah Abubakari

Appendix 1

Workshop Programme

CLIMATE CHANGE RESILIENCE IN URBAN MOBILITY IN ACCRA WORKSHOP ALISA SWISS SPIRIT HOTEL, NORTH RIDGE ACCRA JUNE 27, 2018

9.00: Registration

10.00: Opening Prayer Albert Allotey

Welcome: Paul Yankson

Introduction of Chairman: Richard Kofie

Chairman's remarks

Introduction of participants

10.30 Overview of CLIMACCESS Project:

- Lasse Moller-Jensen: How do rain events influence the transport network and the mobility of urban residents?
- Thomas Balstrom: How can we identify flood-prone areas ("blue spots") from city-wide terrain models?
- Thomas Friborg: How can local risk flooding be analyzed using drones?
- Jytte Agergaard: Extreme weather-induced flooding vulnerabilities and community resilience practice in Accra.

11.15: Questions and answers on the presentation

11.30: Group Photo and Coffee break

12.00: Stakeholder briefs and discussion

- Urban Roads/AMA
- Nadmo
- GPRTU

12.45: Wrapping up and way forward Lasse Moller-Jensen

12.55: Chairman's closing remarks

13.00: Vote of thanks: Martin Oteng-Ababio

13.10: Prayer and closing Albert Allotey

13.15: Lunch and departure.

Appendix 2

Participants

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Appendix 3

Scenes at the workshop



Photo credit: Dr Albert Nii Moi Allotey (2018)