

CAPACITY BUILDING FOR CLIMATE CHANGE ADAPTATION AT LOCAL GOVERNMENT LEVEL IN DAR ES SALAAM

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RUGAI, Dionis (Ardhi University)
FANTINI, Laura (Sapienza University of Rome)
SHEMDOE, Riziki (Ardhi University)



SAPIENZA
UNIVERSITÀ DI ROMA



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Rugai Dionis, Fantini Laura, Shemdoe Riziki

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Acronyms

ACC Dar	Adapting to climate change in coastal Dar es salaam
CB	Capacity Building
CBP	Capacity building program
CC	Climate Change
EEPCO	Environmental Engineering and Pollution Control Organization
DoE	Division of Environment
LGA	Local Government Authority
NAPA	National Adaptation Plans
NCCS	National Climate Change Strategy (NCCS)
VPO	Vice president office

1. Introduction, Scope, and Motivation

1.1. Background

Adapting to Climate Change in Coastal Dar es Salaam (ACC Dar) is a three-year project co-funded by the European Commission, DG Development and Cooperation (EuropeAid). It is implemented through two core partners, Sapienza University of Rome (Italy) and the ARDHI University of Dar es Salaam (Tanzania).

The ACC Dar project on the “research side” deals with the analysis of the processes involving peri-urban (PU) dwellers to enhance understanding about their livelihood strategies and adaptive capacities (Ricci et al., 2012; Ricci 2012), and about their vulnerability in relation to the phenomena of the urban sprawl (Congedo et al., 2013) and of the groundwater salinization (Sappa et al., 2013). On the “action side”, it aims to strengthen LGAs’ capacities in integrating climate change (CC) adaptation into their existing plans through developing methodologies for designing and mainstreaming adaptation initiatives, and through implementing a capacity-building action addressed to the four LGAs governing the city of Dar es Salaam.

The design of the capacity-building (CB) strategy rested on the results of the survey conducted under the Work Package 1 of the project (Kassenga, Mbuligwe 2012).

This working paper presents the strategy of the CB component of the project, the methodology and the results of the training experience involving 38 officers from urban development and environment management units from Dar es Salaam City Council, Kinondoni Municipal Council, Ilala Municipal Council, Temeke Municipal Council and the Wami Ruvu Basin Authority.

1.2. Goals and Scope of the Capacity Building

The ACC Dar project aims to improve the effectiveness of Local Government Authorities’ (LGAs) initiatives in Dar es Salaam to support the efforts of those coastal PU dwellers, partially or totally dependent on natural resources, to adapt to CC impacts. More specifically, the action aims to enhance the capacities of Dar’s LGAs by increasing their understanding of adaptation practices and by providing them with methodologies for mainstreaming adaptation into their strategies and plans concerning urban development and environmental sectors. The achievement of these objectives will contribute to the overall goal of the project of improving implementation of the National Adaptation Programme of Action (NAPA) of the United Republic of Tanzania.

The specific objectives of the CB action are threefold: i) firstly, to enable LGAs’ officials in the city of Dar es Salaam to gain understanding and knowledge about CC and adaptation related issues; ii) secondly, to develop a training methodology tailored for the specific context (namely for building Dar LGAs’ adaptation capacities); iii) lastly, to develop four adaptation proposals, one for each authority involved, mainly addressing water scarcity and groundwater salinization as one of the main factors of vulnerability relying a large part of Dar’s PU areas.

Among the daily responsibilities of Dar es Salaam LGAs’ officers is to prevent, cope or recover from CC effects such as flooding of low lying areas, coastal erosion, groundwater salinization. However, they have a limited analytical capability to effectively analyze CC potential impacts and to monitor PU dwellers’ vulnerability, which may seriously hamper the development of viable adaptation solutions and consequently the implementation of NAPA. In addition, institutional coordination is needed to improve the flow of information, decision-making strategies, and implementation procedures.

1.3. Motivation

CC adaptation governance

This working paper refers to CC adaptation as the local answer to adjust to actual or expected climate and its effects by adopting measures that could moderate harm or exploit beneficial opportunities. The literature on CC distinguishes between “autonomous adaptation”, referring to the solutions adopted spontaneously by people in response to experienced changes (without planning explicitly or consciously related to climate stimuli), and planned adaptation, where the measures adopted come from strategies, policies, or decisions (IPCC 2007).

Planned adaptation refers to different levels: international, national and sub-national.

In the United Republic of Tanzania CC has a quite recent history, even if the country’s efforts at international policies level started in the 90s, the effective put in place of instruments and mechanisms for accessing funds and implementing CC-related measures are still ongoing.

The Government of Tanzania ratified the United Nations Framework Convention on Climate Change (UNFCCC) in 1996 and the Kyoto Protocol in 2002. In 2007 the definition of NAPA formed a clear basis for identifying and implementing adaptation actions at both sector and local levels. Only in December 2012 a National Climate Change Strategy (NCCS) has been finalized, and launched in March 2013, including both adaptation and mitigation, with a stronger focus on adaptation.

In the Government of Tanzania CC, as well as environment, is considered a cross-sector issue and it is governed by the Division of Environment (DoE) of the Vice President’s Office (VPO), already acting as the National Climate Change Focal Point (NCCFP). As main implementing actor, it is responsible for preparing the national climate change frameworks, namely in supporting each Sector Ministry to develop its Sector Action Plans for implementing the new NCCS, such as the National Adaptation Plans (NAPs). The efforts spent by the Government of Tanzania until now in conceptualizing CC and adaptation related issues, in building the implementation architecture, the organizational structure and the distribution of competencies, have been addressed until now at central level. To date no any institutional, organizational, procedural or decision-making changes are foreseen within the LGAs to ensure an effective implementation of the national strategy, as well as, no any capacity-building strategic interventions is foreseen to enhance local government institutions adaptive capacity.

CC adaptation and LGAs

The CB strategy has been developed in the framework of the ACC Dar project on the basis of the main assumption that LGAs are a crucial actor in designing and implementing CC adaptation measures especially in PU areas.

On the one hand, as adaptation is a local and context-related issues, to work at local level presents a range of advantages and opportunities, on the other hand LGAs in most of the Sub-Saharan huge cities have to face a lot of big challenges to comply with their mandates.

In Dar es Salaam LGAs are characterized by scarce financial and technical capacities and they have to face the additional challenges posed by the fast growing rates of population and urban sprawl. In fact, as a direct consequence of these fast transformations more than 70% of inhabitants live in the PU areas where settlements grow spontaneously and they are under-served and under-structured, and where residents’ livelihood is strictly dependent to natural resources. The effective management of services and infrastructures in those areas get out of the LGAs’ control.

Local authorities are the level of the government closest to the citizens, in particular in Dar es Salaam the local government pyramid structure and its widespread territorially-based offer an opportunity for the bottom-up identification of community's adaptation priorities and solutions, and to mobilize local resources and local knowledge. LGAs understanding of CC related issues comes directly by their empirical experience, but it is not often conceptualized as adaptation. Furthermore, LGAs face often severe pressure to act because they have mainly to recover emergencies caused by extreme events and because they are busy by the daily service delivery.

As regards the relationship among the four different LGAs governing the city of Dar es Salaam the local institutional framework is quite complex due to the fact that the Region, the City Council and the three Municipalities governs the same jurisdictional boundaries. The overlapping functions of those different authorities is often a cause of mismanagements, including the lack of clearness in responsibilities attribution and the discontinuity in planning different solutions for similar and cross-cutting issues.

The Local Government Reform process in the United Republic of Tanzania is still ongoing. Even if the LGAs remain still subordinated and controlled directly to the central level the reform process decentralized financial resources and functions to the municipalities enhancing their autonomy in collecting residents' priorities, in preparing the strategic plan and in negotiating the annual financial plan directly with the sector ministry.

As highlighted by the recently published Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC 2014) local councils and planners are hindered in their efforts on planning and implementing adaptation measures by the absence of applicable guides to adaptation decision making. Furthermore, they have to face with the complexity of adaptation without adequate access to guiding information or data on potential CC impacts and local vulnerabilities.

The CB strategy developed by the ACC Dar project faced with this complexity aiming to enhance conceptualization, knowledge and competences on CC adaptation related issues and to strengthen the cross-sectoral coordination providing an opportunity of exchange among the departments within the same administrations and among the different LGAs governing the city.

2. Approach and Methods

2.1. Overall Approach

A training needs assessment (TNA), which involved officials of Dar es Salaam's Local Authorities and institutions involved in key issues pertaining CC and UDEM was first conducted. The TNA was meant to determine the gap in capabilities of Dar es Salaam's Local Authorities and other institutions in the implementation of UDEM and dealing with issues pertaining CC. Specific areas of importance in which training is needed, gap to be bridged and desired training outcomes were determined from the results of TNA. Constraints and opportunities at institutional and personal level related to the implementation of CBP were also identified from the TNA results. The aim was to identify any obstacle or difficulty that might prevent the targeted staff from participating fruitfully in the capacity building.

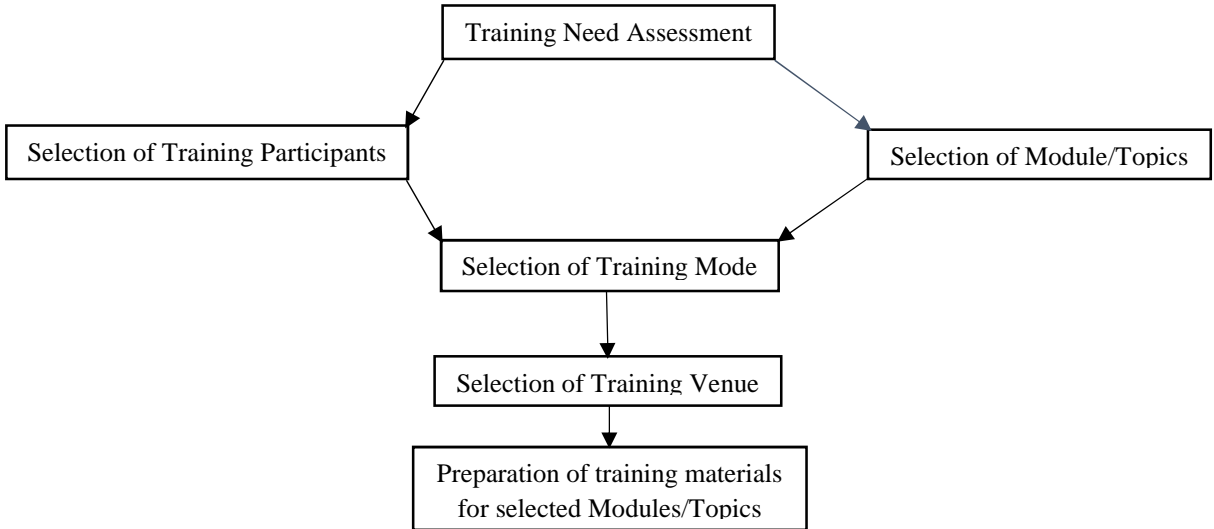


Figure 1 General training preparation approach

Officials providing services pertinent CC and UDEM Municipal services to be involved in CB activities were identified on the basis of the results of a survey on current Dar es Salaam's institutional activities related to CC, which was conducted under WP1 (improve understanding in CC adaptation). The CBP was discussed with the senior officials of Dar es Salaam's LGAs in order to give them an opportunity to suggest topics and or modules, which meet their needs.

The results from the TNA also revealed the need to conduct the training using short courses for a duration of one to ten weeks. However due to busy schedules of most officials involved in the training it was agreed to conduct two separate training sessions for duration of oneweek each in order not to interfere with their institution's other office duties.

It was also decided that the training be conducted outside Dar es Salaam in order to have all the trainees available for the whole duration of the training. It also aimed to ensure timing of the training during a day and provide the possibility for participants to work on different group assignments after normal training period of a day.

The selection of the training participants was down to those with knowledge (either by formal education training or competency through practical training/on the job training) in land use planning, waste management, natural resources management, development planning, water supply and sanitation and health services provision. In this view, municipal directors were advised to allow at least one participant from each of the above mentioned departments.

There was also a need to include participants from Wami-Ruvu Basin Authority due to their responsibility in managing both ground and surface water resources within Dar es Salaam city. Selected training participants in collaboration with EEPCO who were coordinating the training, suggested modules and or topics from a list provided to them. The aim was to ensure that, participants are trained on modules/topics of their choice that will enhance their knowledge in CC adaptation in their daily work activities. Lastly training materials to be delivered during the training was prepared by trainers assigned for a particular chosen module/topic.

2.2. Target Participants and Selection Criteria

The main target in the CBP were to train 40 officials of Dar es Salaam LGAs, water utility and water resources management organizations who are dealing with issues pertinent to CC adaptation and environmental planning and management. Specifically, participants from Dar es Salaam LGAs were drawn from the following departments: Agriculture and Livestock Development, Health, Lands and Urban Planning, Natural Resources and Tourism, Waste Management, Water, Works and Fire Rescue. Emphasis was given to females with a view of having at least fifty percent of all the participants in the training. Priority was also given for participants who are less than 50 years old to ensure their availability in service for a considerable long period of time.

Table 1 shows number of training participants and institutions they belong to.

Table 1. Institutions and departments whose employees participated in the training

S/N	Organisation	Number of Trainee	Department/area of specialisation
1	DCC	8	Fire and Rescue(2), Waste management (2), legal(2) and Urban planning , environment and transport(2)
2	Ilala Municipal Council	8	Agriculture and Livestock development(1), environmental management (1), Natural resources(1), Health (1),solid waste(1), works and water(1), and Fire and rescue(1), Urban planning(1)
3	Temeke Municipal council	8	Health(1), Lands & Urban Planning(1), Natural Resources(1), Waste Management(1), Water & Sanitation(1) , Disaster Management(1), Environmental Management Officer(1) ,GIS Expert(1)
4	Kinondoni Municipal council	9	Urban planning(3),Agriculture and livestock(1),Natural Resources(2),Civil/environmental engineering (3)
5	Wami-Ruvu Basin Authority Office	3	Hydrology(1) Environmental engineering (1), Hydrogeology(1)

2.3. Implementation of the Training

The training was implemented at Oasis hotel in Morogoro region which is located about 194 km west of Dar es Salaam in two separate sessions. The training was conducted in Morogoro for two major reasons; firstly was to ensure availability of all the participants throughout the training period. Secondly was to avoid participants' turn-over. If the training were to be conducted in Dar es Salaam there would have been a possibility of having

different participants for different days of the training duration due to different tasks that might have been assigned to them at their working place. This provided consistence in training from one module to the other.

The first training session was conducted for five days from 4th to 8th of march 2013 and the second training session was conducted for six days from 10th to 15th of June 2013. The first training session was meant to introduce participants on various aspects of CC, adaptation and methods that can be used to adapt with changes already experienced in Dar es Salaam city. It also provided a base for the second session of training. The second training session was meant to address issues related to vulnerability to CC in the context of other non-climatic issues (environmental change and consumption levels) and their integration with other drivers and pressures. This was done in order to provide a base for the participants to be able to mainstream responses to CC with other development measures with a view to enhance development of institutional adaption strategies to CC impacts in Dar es Salaam city

2.4. Delivery Method

The methods used to implement the training program were: lectures, group discussions, brainstorming and physical demonstrations. Lectures were delivered interactively to allow active participations of trainees. To reinforce contents of the lectures, short movies relevant to the subject matter were shown after the lecture. Group discussion was chosen to keep participants interested and involved. In this method, resources can be discovered and shared and learning can be observed. It also allowed chances to hear other points of view. Participants were divided into groups based on their area of working and were assigned to discuss a topic or solve a problem presented to them. Brainstorming method was also used in order to involve all the participants in collecting information and generating ideas quickly. It was mainly used where participants were involved in problem-solving tasks. Lastly, physical demonstration were used to impart skills on the use of computer software through physical demonstration. Specifically on the use of microsoft excel and SPSS for data analysis from questionnaire. Participants were also given an opportunity to use the software themselves to acquire the required skills.

2.5. Evaluation

After the topic has been covered, participants were availed an opportunity to evaluate various aspects of the training module. The evaluation results were used to determine achievements of the training objectives, identify strengths and weaknesses as well as causes of success or failure of the course. Evaluation form (annex 1) were prepared and distributed to the participants for filling after the topic is covered.

The main strength of the training programs was the relevancy of the topics/modules delivered. It was observed that most of the participants were already implementing CC adaptation measures in their day to day activities without knowing. The training was able to enable them understand which activities were related to CC adaptation and the one that were not. However most of the participants didn't have enough skills to be able to follow some of the topics delivered. For instance out of the 38 participants only 3 had prior knowledge on data analysis and interpretation using SPSS software thus the need for more time to take everyone on board. The short period allocated for the training was identified as one of the main weakness of the training program.

3. Outcomes

3.1. Training components/Topics/Module delivered

Climate Change and Adaptation Principles and Practice

The objective of the first module was to provide the trainees with basic understanding of concepts, trends and issues on CC mitigation and adaptation and the major strategies used in each category at global, regional and local levels. Furthermore, it provided the trainees with basic understanding and interpretation of various provisions of the National Adaptation Plan of Action (NAPA) and other relevant policies on CC mitigation and adaptation in Tanzania and identify their strengths and shortcomings. Contents of this module included: CC causes, impacts and adaptation principles; CC impacts and adaptation in Tanzania; vulnerability to CC and sectoral analysis in Tanzania; adaptation needs and priorities in Tanzania; and policy, legal and institutional aspects of CC in Tanzania

Adaptive capacity

This module aimed to provide trainee with basic knowledge on the nature and components of adaptive capacity and on the relationship between characteristics of peri-urban households' and their autonomous adaptation strategies. Participants were introduced on the results of the household Survey for Adaptive Capacity Analysis conducted under the work package 1 of the ACC Dar project (Ricci L *et al* 2012). They were trained on: how to monitor household's adaptive capacity and lastly on how to design an ad hoc survey to assess it.

Urban sprawl and climate change

This module aimed to provide trainee with basic understanding on how the interaction between human activities and environment provides stresses such as environmental changes and consumption levels, and their integration with other drivers and pressures can lead to increased impacts to CC. Evidence on increased floods in the city, saltwater intrusion in the groundwater aquifers and their connection to land cover changes, and increased population were issues given priorities in the discussion.

Borehole monitoring campaign and seawater intrusion analysis

A topic on understanding seawater intrusion provided basics on the coastal aquifer hydrogeology and methodology used to study the seawater intrusion phenomenon that helped the participants understand better the next topic on current situation on seawater intrusion in Dar es Salaam. The second topic on current situation on seawater intrusion in Dar es Salaam aimed at sharing results of the seawater intrusion analysis obtained through borehole monitoring campaign under work package 2 of the ACC Dar project.

Adaptation Mainstreaming

The objective of this module was to provide background knowledge to trainees on mainstreaming of cross-cutting issues addressing CC adaptation into existing plans and strategies. Participants were introduced in various mainstreaming approaches, conceptual frameworks and methods/tools for mainstreaming CC adaptation into local plans and programs. This provided a good base for participants to develop proposals for mainstreaming CC adaptation in their work plan.

3.2. Number of Participants Trained

Participants within the whole training were 38 during the first week and 35 during the second one. During preparation of the training program it was anticipated to have 40 participants in the training. However in the first week of the training, 38 trainee participated in the training

which is equivalent to 95%. In the second week of the training 35 trainee participated in the training which is equivalent to 87.5%. Furthermore there was 8 female participants for all two weeks of training which account to 23.7 % and 25.7% of the total number of participants for the first and second week of training respectively . Successful participants were then awarded certificates of attendance to the training programme.

3.3. Climate change adaptation mainstreaming proposals

Methodological approaches employed in identifying possible climate change adaptation interventions that will need to be facilitated for the local government in Dar es Salaam to be able to invest in the adaptation included: series of workshops that facilitated understanding of climate change impacts and possible mainstreaming approaches of climate change adaptation in the local government plans; capacity building of the technical experts from local government on developing possible intervention proposals; and the actual proposal development. These workshops brought together a number of technical cadres from various departments in the three municipalities who are involved in the planning and implementation of various municipality plans and projects. The first consultative meeting included the presentation of the impacts of climate change to the development of Tanzania and the specific examples were highlighted that were on various episodes that were linked with the climate change impacts in Dar es Salaam. After the presentation, the technical cadres from the three municipalities were tasked to develop their proposals for the possible interventions that they would want their municipalities to implement taking into consideration areas that have always been indicated during the planning process and that are grass root oriented adaptation innovations.

Opinions and proposals on possible interventions for Climate change adaptation in Kinondoni Municipality

In Kinondoni Municipality, the municipal technical personnel under the facilitation from ACC Dar project developed a proposal with the main goal being to reduce sea water intrusion to the ground water resource and improve health of Goba Ward community with the main purpose being developing capacity by training 20 primary teachers in 4 primary schools on rain water harvesting. In their developed adaptation strategy, the municipal intend to attain the following outcomes: (i) Reduced time consumed in fetching water; (ii) improved health condition of community; (iii) improved economic status of community (poverty minimization) and (iv) minimized water user conflicts. Under the proposal developed by Kinondoni Municipal, several outputs were also proposed and these include Availability of clean and safe water in place trained community Water user committee in place. Interventions to attain the state output include: Construction of rainwater harvesting infrastructures, conducting training on better water using techniques and the establishment of functional water user committee.

Ilala Municipality

Ilala Municipality is vulnerable to climate change effects such as depletion of groundwater and seawater intrusion as a result of over pumping, deforestation around catchment areas leading to reduction of municipal water supply These effects have adverse impacts on the health and functioning of ecosystems and consequently on the well being of humans as they affect the social and economic systems that are central to human existence. Traditionally, Ilala Municipality experiences two rainy and two dry season. During the rainy season, most of the excess rain water is lost through surface runoff as there is no rainwater harvesting system. When the dry season sets in, water is scarce and is not enough to meet demand. This problem of water scarcity is further compounded by the ever increasing demand for water occasioned by increased economic and social development as well as population growth. In addressing this problem, the country has invested on construction of reservoirs at catchment in Kidunda Morogoro to increase supply; however the effort does not fulfil the

requirements of Ilala residents as the population increased exponentially. This therefore calls for more and diversified interventions that could assist the communities in Ilala Municipality at least to access water that can be used for various purposes including domestic, sanitation as well as for gardening that is becoming one of the important source of livelihoods to various community segments in the municipality.

Opinions and proposals on possible interventions for Climate change adaptation in Ilala Municipality

The consultations with the Municipal technical staff has therefore resulted into gaining an understanding on the possible options that the local government in this municipality would like to see effected as a way to increase and diversify water availability in this municipal. Ilala municipal has developed a proposal that looks for the financing in addressing the issues of sanitation and increasing water availability for the community. The proposed project that Ilala municipality has developed which is still looking for financing is has a general goal of *improving sanitation and water harvesting schemes in 50 primary schools as an initiative among other interventions to contribute to the climate change induced impacts in the municipality.*

Under the proposed project, the main purpose has been indicated to be raising awareness among the community on climate change adaptation and rainwater harvesting in 50 Primary school of Peri-Urban in Ilala Municipality. Based on their analysis, the municipality technical cadre has indicated that under the proposed project, there are several outputs that the implementation of this project could have produced. These are: (i) 50 primary school equipped with water harvesting schemes; (ii) 1200 teachers and 15000 pupils facilitated with rain water harvest technology; (iii) 200 neighbourhood community replicated rain water harvest technology; and (iv) 2500 Community sensitized about rain water harvesting. The technical cadre of the Ilala municipalities were also able to identify the expected outcomes of such a proposal if it could have been implemented in their municipality. Two main outcomes were mentioned and these are (i) the reduction of sea water intrusion and (ii) the reduction of waterborne disease.

Temeke Municipality

Temeke Municipality covers an area of 656km² with a coastal line of 70km length. Temeke is located in the south of Dar es Salaam city, borders Coastal Region in the South, Ilala Municipality in the North and West while in the East it stretches by the coastal line of the Indian Ocean. Most of the area is covered by sandy soils. The main natural vegetation is coastal shrubs, miombo woodland, coastal swamps and mangrove trees. Temeke lies in the Tropical coast belt of Dar es Salaam. It is influenced by two major climatic seasons namely rainfall and temperate seasons. Rainfall pattern is that of bimodal type with erratic conversional rains. The Monsoon rains occurring throughout the municipality between December and February, while the long heavy rains occur in the period from March to June. The amount of rainfall received ranges from 800 -1200 mm per annum. Temperature just like rainfall is also influenced by ocean currents. High temperatures prevail throughout the year ranging from 25°C during the period of June to August up to 35°C in the period of January to March. According to URT (2012), population census there 1,151,865 inhabitants. With an estimation of growth rates of 4.6% per year. Over 90 percent of the population use water from boreholes. The existing boreholes in the municipality is estimated to 1000 units both public and privately owned. This has a lot of impacts on the ground water over pumping and hence the intrusion of salt water to the ground water that is being used by the communities in various areas of the municipality. Based on this, the municipality has developed a proposal that with the main goal being improving adaptive capacity to respond to saltwater intrusion in Temeke Municipality. The proposed project is in line with the Government Strategy for urgent action to address environmental challenges on marine, lakes, rivers and dams environment. The Strategy has identified eight challenges facing the marine environment, eight challenges facing lakes, rivers and dams environment and, eight cross-cutting environmental challenges. The Strategy has spelt strategic actions to address each environmental

challenge identified. Among the environmental challenges identified in the marine environment include: mangrove degradation, dynamite fishing, disappearance of endangered species and pollution whereas the identified challenges facing lakes, rivers and dams environment are: sedimentation, pollution, use of prohibited fishing nets and, disappearance of satellite lakes. Cross-cutting environmental challenges identified include: poor participation of the public on environmental conservation efforts, communicable disease among communities living around the environs and, low level of public awareness. The Strategy has also set short, medium and long term actions as well as responsible institutions for taking actions. All these have been also factored in the Temeke strategic plan of 2013/18 which intends to provide social-economic services to its population to attain a good livelihood.

Opinions and proposals on possible interventions for Climate change adaptation in Temeke Municipality

As indicated in previous sections, Temeke Municipality has proposed under the ACC Dar project an intervention to reduce the impact of climate change on salt water intrusion through being improving adaptive capacity to respond to saltwater intrusion. The project has the main purpose being to minimize saltwater intrusion along the coastal belt of Temeke Municipality. Temeke municipality has proposed this project with the three expected outcomes firstly minimised seawater intrusion; secondly improved coastal environment and the third outcome was mentioned to be improved health of the people. The expected output that the technical cadre of the municipality have proposed in their project include (i) 400 hectares of mangroves planted; (ii) Members of 10 WDCs trained; (iii) Member of Water user and Health committees from 63 Sub wards trained; (iv) 20 schools provided with rain water harvesting infrastructures; and (v) 10 Wards accessible to clean and safe water.

4. Conclusions and Recommendations

4.1. Conclusion

After completion of this training programmes participants were able to identify key areas of integration, in which adaptation to CC goes hand-in hand with other development priorities and building resilience in natural and human systems. They were also able to identify and develop basic elements of an implementation plan .This was evident on the application of the knowledge gained from the modules and topics delivered in designing the CC adaptation proposals for each organization whose members participated in the training

4.2. Recommendations

Due to time constraints some of the developed modules and or topics were not covered In particular, topics on application of Remote Sensing (RS) and Geographical Information System (GIS) for monitoring of urban sprawl needed a highly specialised training. However none of the participants had a prior knowledge on the use of RS and GIS software. This needed more time on training than the one allocated. The same situation was also evident on the data analysis with SPSS. It is thus recommended more time be allocated in these topics as they are important for sound implementation of CC adaptation mainstreaming. There is also a need to involve officials from planning sectors and treasurer in order to simplify the integration of CC adaptation in municipal and institutional development plans and programmes.it will also strengthen the need and necessity to allocate funds for CC adaption programmes from internal municipal/institutional budgets.

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Annex 1

COURSE EVALUATION FORM

MODULE:-----

Topics :

1. -----
2. -----
3. -----
4. -----

Please use the scale below to indicate the extent to which you agree with the following statements:

1:Strongly Agree, 2: Agree, 3:Neither Agree Nor Disagree, 4:Disagree, 5:Strongly Disagree, N/A:Not Applicable

A. ABOUT You

	1	2	3	4	5
I. I was personally interested in taking this course					
II. I had the necessary prerequisite knowledge for completing this course					

B. MATERIALS

	1	2	3	4	5
III. The handouts, use of media (including graphics, audio and/or video materials) were satisfactory and effective					
IV. The course materials were accurate					
V. The course materials (including exercises....) were relevant and contributed to the achievement of the learning					

C. RELEVANCE AND EFFECTIVENESS

	1	2	3	4	5
I. This course met the stated learning objectives					
II. This training was relevant to my responsibilities					
III. I will be able to perform my responsibilities better as a result of completing this course					
IV. This course helped increase my knowledge, skills or changed my attitudes					
V. Facilities and/or technological environment and equipment were appropriate and effective					
VI. The time allotted to each learning activity/topic was appropriate					
VII. The training environment was conducive to learning					
VIII. Overall, the instructors were effective (e.g.,					

	1	2	3	4	5
demonstrated mastery of the subject matter, responded fully and completely to questions, provided relevant examples, etc.)					
IX. Overall, the course was effective					

D. TEACHING METHODS USED

	1	2	3	4	5
I. Were the presentations well prepared?					
X. Was the delivery of presentations interesting					
XI. Was class participation encouraged?					
XII. Were the facilitators approachable?					

E. PLEASE RATE THE FACILITATORS BASED ON THE QUALITY OF THEIR PRESENTATIONS

s/n	Facilitator/Trainers name	1	2	3	4	5
1						
2						
3						
4						
5						
6						
7						

Optional Questions:

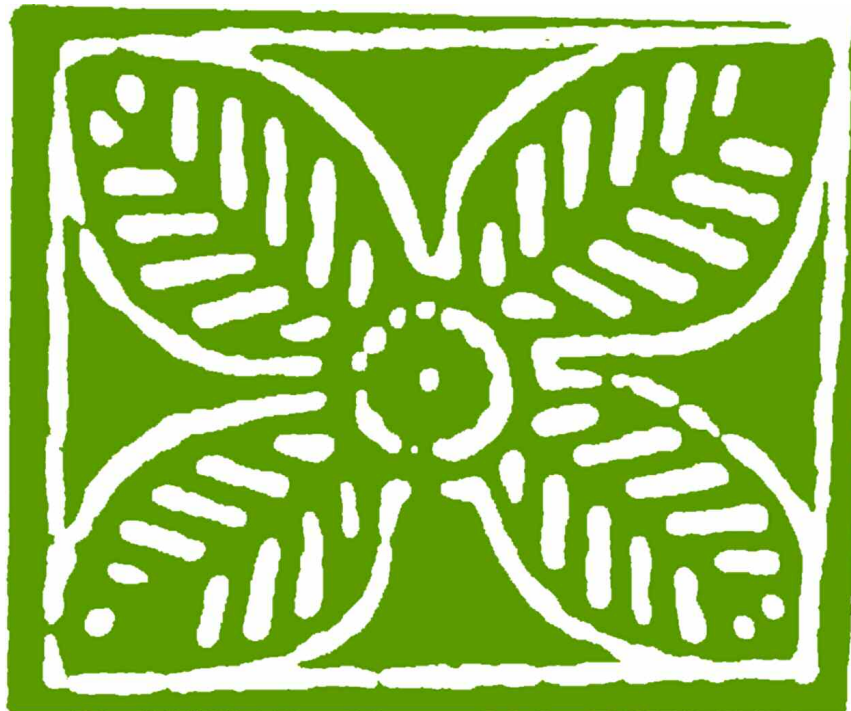
Please provide any comments you have about any of the instructors.

What do you feel were the most valuable aspects of this course?

What do you feel were the least valuable aspects of this course?

What recommendations do you have for enhancing this course?

What other comments do you have?



Project title:

Adapting to Climate Change in Coastal Dar es Salaam

Project acronym:	ACC Dar
Contract number:	2010/254-773
Project duration:	01/02/2011 – 31/01/2014
Grant Contract Beneficiary:	DICEA Sapienza University of Rome
Contact Person:	Silvia Macchi
Partner in the Action:	Ardhi University Dar es Salaam
Associate in the Action:	Dar es Salaam City Council