

RESULTS ORIENTED MONITORING REPORT

Grant Contract Beneficiary: ***CIRPS Sapienza University of Rome***

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Partner in the Action: ***Ardhi University Dar es Salaam***

Associate in the Action: ***Dar City Council***

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***

Reporting period: ***From 01/01/2012 to 30/06/2012***

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Data contribution and reviews to the successful submission of this report have been provided by all the project team members





Individual commitment identification number:	2010/254-773
Title of the Action:	Adapting to Climate Change in Coastal Dar es Salaam
Name of Beneficiary:	CIRPS _ Sapienza University of Rome
Name of Local Partner:	Ardhi University of Dar es Salaam (ARU)
Period Covered by this report	1 st of January 2012 – 30 th of June 2012

CONTRACTUAL & FINANCIAL ISSUES:

Expenditure ratio since start of the project:	45,58% in relation to the total cost of the action (as per art. 3.1 Grant Contract – BUDGET), all sources and contingencies included
Expenditure ratio since last payment (<, > 70%):	56,53% in relation to the first instalment of pre-financing
Planned date of submission of next payment request:	1st of February 2013
<i>Issues Arising/Corrective Measures: What constraints/problems are currently being faced? What action has been taken, and by whom, to address these? What further action is required to support effective implementation, by whom and when?</i>	
No relevant issues have arisen related to contractual and financial matters during the first semester of the second year project activities. The second instalment of the financing was received at the beginning of June 2012.	

EXECUTIVE SUMMARY:

<p>This report covers the first semester of the second year project activities.</p> <p>The administrative unit of Sapienza University of Rome responsible for the project changed from CIRPS (Interuniversity Research Centre for Sustainable Development) to DICEA (Department of Civil, Building and Environmental Engineering)</p> <p>The development of the action did not encounter any relevant constraint. Relevance of the overall and specific objectives of the action remained the same as described in the EC Grant Contract and the foreseen activities are running very well showing important results and outputs as summarized here following.⚡</p> <p>In the framework of the <u>work package 1</u> “Improve Understanding in Adaptation”, the</p>



The statistical analysis of data from the 6000 from the household survey provided relevant knowledge on the nature and components of adaptive capacity in coastal Dar's peri-urban areas. From the analysis results two issues have been identified as focal topics for the participatory activities: access to water, chosen to focus the first participatory cycle held in March 2012, and access to land, which will be explored through the second participatory cycle foreseen in September 2012. The first cycle of participation through the Forum Theatre technique involved almost 400 residents from the target area. Its results complement the information gathered through the household questionnaire by providing an outline of the social and cultural implications of diverse adaptation strategies.

The findings from the household survey and the institution survey performed in the first project year have been evaluated during the International Workshop held in Dar es Salaam from 6th to 8th of June 2012.

Two working papers and two related evaluation reports have been finalized:

- "Investigating the livelihoods of the population dependent on natural resources and their concerns regarding climate change" (as output of the activity 1.1); and
- "Investigation of Dar es Salaam's Institutional Activities related to Climate Change" (as output of the activity 1.2)

A third working paper about the results of the participatory activity (1.3) is under elaboration.

In the framework of the work package 2 "Develop Methodologies for Designing Adaptation Initiatives", two research teams are working in parallel.

Progress achieved to date includes the development of a methodology for validating the land cover maps created in the previous semester and the collection of field data in Dar' coastal plain. The validation process of Dar's land cover maps is presently ongoing and land cover change analysis will be performed in the next semester. The aim is to facilitate the monitoring of land cover and land use changes in Dar's peri-urban settlements by using Landsat and SPOT imageries actually available for free. Those results will be merged with those coming out from the already started monitoring of changes in groundwater condition to contribute in the development of the methodology for exploring CC vulnerability scenarios

Two working papers have been finalized:

- "Development of a Methodology for Land Cover Classification in Dar Es Salaam using Landsat Imagery"; and
- "Development of a Methodology for Land Cover Classification in Dar Es Salaam using SPOT Imagery"

As regards the work package 3 "Build the Capacity of Dar's Municipalities" in understanding CC issues, designing adaptation activities and integrating them in their UDEM strategies and plans, the assessment of the needs to be addressed in the capacity-building action and the identification of the local officers and services who will be involved have been already carried out through a survey involving 50 department heads in DCC, Dar's Municipalities, Ruvu Basin Authority, DAWASA, DDCA and some other relevant stakeholders. The analysis of these data, merged with



the results of the survey held under activity 1.2 and with a deeper understanding of the institutional framework, is the base to elaborate the capacity-building strategy in the next semester.

The better understanding of actual and practical ways of addressing CC adaptation in coastal areas of Dar es Salaam from the WP1 results and the monitoring and planning methodologies from WP 2 provide the knowledge and tools required by the capacity-building activity addressed to Dar's municipalities and the design of adaptive measures aimed at supporting inhabitants of coastal unplanned and underserved settlements in their efforts to adapt to CC.

A first working paper about the need assessment results is under elaboration.

As regards the dissemination of the project activities and results and the project management, they run throughout the whole project.

The two factors playing a crucial role for the successful development of the project, mentioned in the previous ROM, remained relevant: the strong collaboration between partners and among all personnel carrying on the activities; and the strong commitment and availability of the local authorities at all institutional levels (DCC, Dar's municipalities, community leaders and street leaders) to collaborate in the project goals achievement.

CONTEXT (EXTERNAL FACTORS):

Summarise changes in the project operating environment/context (positive or negative) since the start of the project, which may impact on the project's relevance and/or feasibility, mentioning where relevant major developments since the last report. Reference should be made to assumptions/risks and to the quality of relations with implementing partners and local authorities highlighting any implications for modifications to project plans.

The development of the action did not encounter relevant constraints; there have not been changes in the project operating context during the reporting period All the assumptions described in the logframe have been fulfilled. In particular the following considerations should be relevant:

- The institutional commitment.

Municipalities provided authorizations and their commitment to allow the realization of all the project activities: the first cycle of participatory events with the local community through the forum theatre, the ongoing interviews with inhabitants and local institutional representatives about land tenure issues; the support by the officers of the Water Division (Planning Department) of the Municipality during the field visits to design the boreholes monitoring networks; and the availability in participating in the needs assessment necessary to develop the future capacity-building strategy.

DCC representatives participated actively in the three-days international workshop organized in Dar in June.

- Community involvement.



Community involvement in the project activities has been demonstrated by their strong and active participation during the five events performed through the forum theatre. Almost 400 people have been involved in the events allowing the project team to obtain a wide range of information about “ people CC adaptation options and strategies”.

- International regulation.

Travel regulation and organization did not encounter any problem or visa restriction.

Some delays in the beginning of the boreholes monitoring campaign have been caused by the strict and long university administrative procedures and by the custom clearance time required to buy the necessary equipments and chemical reagents to perform the analysis.

MANAGEMENT (INTERNAL FACTORS):

Summarise any changes to planned internal project management and coordination issues. Does the log-frame, particularly the specific objective and results, remain relevant? Are the indicators well defined, appropriate and practical, with cost effective means of verification? Is the project keeping to its work plan and have all planned milestones been achieved? Have particularly innovative activities been conducted? Have there been any significant changes to staff/project infrastructure?

Internal project management and coordination

The administrative unit responsible for the project at Sapienza University of Rome changed from CIRPS (Interuniversity Research Centre for Sustainable Development) to DICEA (Department of Civil, Building and Environmental Engineering) due to new internal rules for contracting research personnel. The change was discussed and agreed with the International Relation Office at the central level of Sapienza University of Rome, among the project partners and with the authorization of the EC Delegation. The whole project staff remained the same.

The project management and coordination structure did not change.

The Project Coordination Team has met twice so far in Dar es Salaam: in March and In June. All project meetings have been organized to coincide with other project milestones: in March with the first participatory cycle and in June with the first international workshop.

The two Joint Working Groups related to the WP1 and WP2 have carried out the activities with the achievements described in the next paragraphs. Their scientific results have been evaluated jointly by the Project Coordinator and the Local Coordinator; their interim reporting and their missions in Rome and in Dar es Salaam have been supported and monitored by the Project Manager.

The internal communication flow between the two partners and among the working group members has been on almost daily basis through internet tools and by phone. Exchange of documents took place mainly by email and uploading them in the



reserved area of the project web site.

Internal monitoring of the project activities has been carried out by the project manager through analysis of documentation and meetings with the project staff and has been reported to the EC Delegation through the bi-annual ROM and the annual Interim Report.

A financial audit has been carried out at the end of the first project year, in February-March 2012.

Evaluation of the results achieved by the activities 1.1 and 1.2 have been performed by external international experts through evaluation reports and an international workshop held in Dar in June 2012.

Specific objective and results relevance and innovative activities

Project specific objectives and results remained relevant. Achievements have been reached as described in the next two chapters and the table of the indicators annexed to this report has been updated.

The innovative activity deserving to be mentioned is the first cycle of participatory activity. The methodology used was the “Participatory Theatre (PT)” through the “Theatre of the Oppressed (TO)” tool. The results in terms of ARU students and young researchers participation, in terms of community leaders and people involvement from the target area and in terms of findings useful to validate and increase the research related the WP 1 have been beyond expectations.

The second participatory cycle have been planned for next September.

Work plan

As regards the project work plan no relevant changes have arisen during the reporting period. The International Workshop has been held in June (instead of April) to allow the project team to complete the data analysis and to select the two external international experts for the evaluation.

PROGRESS IN ACHIEVING OBJECTIVES:

Summarise state of progress since the start of the project towards achieving the project overall and specific objectives, mentioning where relevant major developments since the last report. Compare progress against plans, using log-frame indicators as appropriate. Focus on positive achievements, but also unexpected negative impacts. If it is too early to report on project impact, state so and estimate when one could expect impact at the level of specific objectives.

The progresses at the specific objectives level relating the reporting period could be summarized as following.

- The activities foreseen within the WP1 of the project are all devoted to the purpose of increasing knowledge on autonomous adaptive capacity.



The complex analysis of the large amount of data collected from the household survey provided relevant knowledge on the nature and components of adaptive capacity in coastal Dar's peri-urban areas

A better understanding of the relationship between the characteristics of peri-urban households' and their autonomous adaptation strategies is the primary contribution of the analysis. There is a twofold interaction between the two sets of information. First, autonomous adaptation practices impact the characteristic features of the peri-urban, either in a positive or negative way. Second, those features function as both opportunities and constraints for the diverse adaptation practices that peri-urban dwellers undertake to cope with changes in their living environment.

On the one hand, investigating opportunities and obstacles arising from the households' characteristics can contribute to understanding how different modalities of accessing resources and resource management, spatial location, facilities and economic activities might promote or hinder specific autonomous adaptation practice. On the other hand, negative impacts can also be generated by adaptation practices that create risks and pressure on the environment.

From the analysis results two issues have been identified as focal topics for the participatory activities: access to water, chosen to focus the first participatory cycle held in March 2012, and the access to land, which will be explored through the second participatory cycle foreseen in September 2012

The data analysis indicates that these issues play a crucial role in shaping adaptation practices of peri-urban households and the Forum Theatre technique complements the information gathered through the household questionnaire by providing an outline of the social and cultural implications of diverse adaptation strategies. Knowledge of these implications will be crucial to ensuring that future adaptation initiatives planned in the WP3 and foreseen for 2013 will not aggravate gender, age and class imbalances in social relationships.

- The activities foreseen within the WP2 of the project are addressed to the specific objective of developing methodologies for integrating adaptation activities into strategies and plans for UDEM in coastal unplanned and underserviced settlements.

Progress achieved to date includes the development of a methodology for validating the land cover maps created in the previous semester and the collection of field data in Dar' coastal plain. Around 100 randomly chosen locations have been surveyed. The validation process of Dar's land cover maps is presently on-going and land cover change analysis will be performed in the next semester. The aim is to facilitate the monitoring of land cover and land use changes in Dar's peri-urban settlements by using Landsat and SPOT imageries actually available for free. As those changes will combine with CC impacts on natural resources, better knowledge and understanding of peri-urban dynamics are crucial to improve the capacity of DCC offices in reorienting their UDEM strategies and plans to reduce future CC vulnerability of those living in coastal Dar.



Those results will be merged with those coming out from the monitoring of changes in groundwater condition to contribute in the development of the methodology for exploring CC vulnerability scenarios which is foreseen for next semester. The impact of seawater intrusion on groundwater condition has been selected last year as a major issue for the target population's vulnerability. Consequently a methodology for conducting a boreholes monitoring campaign in Dar's coastal plain and the design of a geo-referenced boreholes monitoring network have been developed. Activity 2.2 has been extended in the third year of the project as a result of a delay (4/5 months) in the beginning of the borehole monitoring campaign, due to bureaucratic problems in customs clearance of the chemical reagents purchased for instrument calibration and water analysis. The groundwater monitoring campaign started in June 2012 and, as a consequence, all the following sub-activities, depending on the availability of current hydrogeological data, have been shifted.

- The methodologies and tools developed by both WPs/groups of analysis are tailored to the objective of building the capacity of Dar's local authorities for the design of community based adaptation initiatives as part of the implementation of the National Adaptation Plan of Action of the United Republic of Tanzania. The capacity-building strategy is still under elaboration. It will come out from the data already collected last year about an assessment of DCC and municipal councils' current activities to prevent, cope with or recover from climate effects, from the need assessment conducted by ARU during the reporting period through interviewing around 50 department heads from DCC, Dar's Municipaliites, Ruvu Basin Authority, DAWASA, DDCA and some other relevant stakeholders.

PROGRESS IN ACHIEVING RESULTS:

Summarise state of progress since the start of the project towards delivering the action expected results, mentioning where relevant major developments since the last report. Compare progress against plans, using log-frame indicators as appropriate.

The first result foreseen by the project is a better understanding of actual and practical ways of addressing CC adaptation in coastal areas of Dar es Salaam.

Progress related this result in the reporting period are here following summarized.

- The online database including the 5860 Household Questionnaires administered have been completed during the first year project. From January to the end of May 2012 the data analysis will be conducted by Spienza University of Rome in collaboration with the Institute for Research on Population and Social Policies, National Research Centre (CNR-IRPPS) in Rome. The data analysis was conducted by using the following techniques: univariate (frequencies), bivariate (two-way), and trivariate analisys (three-way cross-tabulation).



All the questionnaire sections were analysed using the variables' frequencies while two-way cross-tabulation was used to analyse the covariation among variables from different questionnaire sections.

Three-way cross-tabulation was used to specify, interpret and explain relations already investigated between two variables. Those analyses were then combined in order to design households' adaptation profiles.

A detailed working paper about the methodology and the results achieved during the whole activity 1.1 has been elaborated and titled "Investigating the livelihoods of the population dependent on natural resources and their concerns regarding climate change". (Annex 1 to this ROM)

- The baseline survey in order to provide an assessment of DCC and municipal councils' current activities to prevent, cope with or recover from climate effects have been completed during the first year project. The final version of the working paper related the methodology and the results achieved during the whole activity 1.2 has been elaborated by ARU and titled "Report on Investigation of Dar es Salaam's Institutional Activities related to Climate Change". (Annex 2 to this ROM)

- Local options for autonomous adaptation to future CC effects have been explored through direct involvement in scenario exercises for groups of residents from the target area.

Based on the results of the feasibility study conducted in September 2011 a first cycle of "Participatory Theatre for exploring CC adaptation in Dar es Salaam" has been carried out by Sapienza University and Ardhi University staff in Dar between 17th of March 2012 and 1st of April 2012.

A two weeks workshop on Participatory Theatre (PT) and CC adaptation has been carried out with participants from Mtongani area in Dar es Salaam. They have been introduced to PT methodology, with focus on Forum Theatre (FT) technique, and invited to create and perform several scenes mostly relevant to environmental issues; moreover FT facilitators have been trained to conduct a FT sessions.

Five final FT events have been performed in Mtongani, Tegeta, Ununiu and Kunduchi area. The focal issue around which the scenes have been built was the "access to water".

A working paper summarizing methodology and results of the first participatory cycle is under elaboration.

The second participatory cycle throughout FT is planned for end of August and beginning of September. A baseline survey throughout face to face interviews with households and local institutions is still ongoing to take relevant information about the issue of "access to land" that could be the focal theme for the second participatory cycle.

- An International Workshop was organized in Dar es Salaam from 6th to 8th of



June 2012 titled “Sub-Saharan cities under climate change. Exploring the adaptive capacity of peri-urban settlements in coastal Dar es Salaam, Tanzania”

The workshop had a twofold aim:

- Evaluate the results of the audit exercise on the adaptive capacity of peri-urban households and local institutions (the already mentioned working papers related to the activities 1.1 and 1.2);
- Provide an opportunity for disseminating and sharing information, exchanging ideas among researchers, and stimulating initiatives for international networking.

Two main driving questions led the discussion:

- How to assess people’s capacity to adapt to environmental change in peri-urban areas of Sub-Saharan cities, starting from the case of Dar es Salaam?
- How to assess local institutions’ capacity to support peri-urban people in their effort to respond to environmental change?

The International Workshop programme included two days indoor session and a field visit with the participation of Sapienza University and ARU project staff, experts from EU universities and EAC universities, and DCC representatives. In the third day, an open session was held to present project’s activities and results to ARU professors and students.

Programme of the International Workshop and the two evaluation report presented by the external experts are annexed to this ROM.

The second result foreseen by the project is the enhanced development of methodologies for supporting inhabitants of coastal unplanned and underserviced settlements in their efforts to adapt to CC

- The development of methodologies to monitor spatial changes in Dar’s peri-urban settlements through Remote Sensing and GIS techniques performed by Sapienza University obtained many achievements during the reporting period:
 - Acquisition of SPOT images has been completed and 7 SPOT images were acquired.
 - Land Cover classification has been performed for year 2011. It was not possible to classify the whole area of Dar, due to the lack of SPOT images acquired over the south of Temeke District, and due to the high cloud cover.
 - Land Cover Change has been performed for Landsat classifications of the years 2002, 2004, 2007, 2009, 2011. Statistics about Land Cover Change were calculated, especially for the classes of continuous and discontinuous urbanization, during the time intervals: 2002-2004, 2004-2007, 2007-2009 and 2009-2011.
 - Landscape Metrics Indices for LANDSAT-based classifications have already been calculated. SPOT classification of 2011 was compared, after being resampled to 30m pixel, to Landscape Metrics Indices of Landsat



classification of the same year.

- A validation methodology has been defined and a field survey on 100 locations has been conducted for validating maps derived from remotely

Two working papers about the methodology and the results have been elaborated and they will be soon uploaded on the project web site: “Development of a Methodology for Land Cover Classification in Dar Es Salaam using Landsat Imagery” and ”Development of a Methodology for Land Cover Classification in Dar Es Salaam using SPOT Imagery”

- A technical team from Sapienza University and ARU is developing a methodology for exploring CC vulnerability scenarios investigating and modelling a specific environmental phenomena, the seawater intrusion, that is already contributing – and will increasingly contribute as CC progresses – to the degradation of those natural resources on which a large part of peri-urban livelihoods depend.

The six-months monitoring campaign, involving the whole borehole network, has been started in June, after the “long rainy season”. The preliminary analysis of the collected data is still ongoing. Some delays in the beginning of the boreholes monitoring campaign have been caused by the strict and long university administrative procedures and by the custom clearance time required to buy the necessary equipments and chemical reagents to perform the analysis.

The methodology for the analysis of the seawater intrusion phenomenon is based on the spatial analysis of the temporal evolution of 3 main indicators: average area electric conductivity; maximum area piezometric charge; maximum 2000 $\mu\text{S}/\text{cm}$ EC isoline distance from the coastline. They have been defined according to the typology of historical data available. The analysis will be developed in the whole study area by dividing it into sub-areas, defined by the main administrative boundaries (Wards and Sub-wards). The methodology may be subject to change in relation to the data collection feasibility of the ongoing monitoring campaign.

The third project result is the following: “Enhanced capacities of Dar's municipalities in understanding CC issues, designing adaptation activities and integrating them in their Udem strategies and plans”

- The better understanding of actual and practical ways of addressing CC adaptation in coastal areas of Dar es Salaam and the enhanced development of methodologies for supporting inhabitants of coastal unplanned and underserved settlements in their efforts to adapt to CC are the basis for the capacity-building activity addressed to Dar’s municipalities and for the development of the tools for the participatory design of community based adaptive measures.

To this purpose at the state of the art ARU staff has been carried out a need assessment interviewing around 50 department heads to assess their competences owned by their staff and have an overview of initiatives already undertaken with



regard to CC adaptation. Local institutions involved include DCC, Dar's Municipaliites, Ruvu Basin Authority, DAWASA, DDCA and some other relevant stakeholders.

Since the start of the project the dissemination of the activities and of its results has been taken in great consideration in order to spread information about the ongoing activities, to enlarge networking and involve new stakeholders interested, to share knowledge about the scientific findings.

- The project web site <http://www.planning4adaptation.eu> has been improved in terms of contents and in terms of tools. A new session has been developed and called "DISSEMINATION". It includes all the outputs elaborated by the project activities; in particular papers and working papers, maps, all the materials produces for training, workshops and other kind of events during which the project contents and results have been disseminated, and ROM, narrative and evaluation reports.
- The project activities and the first results have been disseminated by the team of researchers participating in some national and international events:
 - Regional Planning Course at the Sapienza University, Environmental Engineering Master Program. 70 students were asked to elaborate a poster about the mainstreaming of adaptation issues into an actual plan. The best poster will be soon available on the project website
 - International Workshop, "Sub-saharan cities under climate change. Exploring the adaptive capacity of peri-urban settlements in coastal Dar es Salaam", Dar, 6-8 June 2012.
 - Conference "Sapienza Millennium University", Rome, 21 June 2012
- Working papers related to the activities 1.1, 1.2 and 2.2 have been elaborated:
 - "Investigating the livelihoods of the population dependent on natural resources and their concerns regarding climate change"
 - "Investigation of Dar es Salaam's Institutional Activities related to Climate Change"
 - "Development of a Methodology for Land Cover Classification in Dar Es Salaam using Landsat Imagery"
 - "Development of a Methodology for Land Cover Classification in Dar Es Salaam using SPOT Imagery"
- Working papers related to the activities 1.3 and 3.1 are under elaboration.

EU visibility has been ensured for each of the above mentioned dissemination activities following the rules of the "Communication and Visibility Manual for European Union External Actions" (Europeaid, 2010)

Furthermore during the first cycle of participatory activity t-shirts were distributed to the participants and a poster has been produced to advertise the events. During the international workshop in Dar bags with hard copy materials and pen-drive with all the papers and presentations were distributed to the participants.



A project brochure has been elaborated.

PROGRESS IN CROSS-CUTTING ISSUES:

What progress is being made in achieving cross-cutting objectives in relation to concerns as gender equality, rights of indigenous groups, rights of people living with HIV/AIDS and/or with disabilities, environmental protection and good governance?

The action pays special attention mainly to three cross-cutting objectives: promotion of gender equality and equal opportunities, environmental protection and good governance.

- Women's concern on both CC impacts and planned adaptation initiatives have been taken into account as a fundamental piece of knowledge. Gender equality has been assured during the first participatory cycle, nearly half of the people taking part in the workshop were women. Furthermore the methodology proved to be suitable to highlight gender issues.
Gender distribution has been also taken into account during the survey assessing training needs at the local institutions' level, and in the selection of external evaluation committee invited to the international workshop in June
Women hold prominent positions in the action management (i.e. Project Coordinator, Project Manager, research staff member of the working groups).
- As regards the environmental issues, the whole action is based on the purpose of ensuring the environmental sustainability of adaptive measures and strategies. The target groups of the action are those population living in coastal unplanned and underserviced settlements where their livelihood is strictly depending on natural resources. By drawing on the daily experience of those people, the action ends up in indentifying those environmental processes that are in a critical condition and in valuing good practices of natural resources management. Furthermore the protection of natural resources is one of core elements of the "vulnerability" concept. These premises are mainstreamed into all the ongoing analysis and methodologies in development.
Findings related environmental issues are spread in several points of the working paper 1.1 annex 1 to this ROM and in the working paper 1.3 under elaboration.
- The processes of decision-making and the process by which decisions are implemented have been agreed step by step between the project partners and the Dar City Council.
DCC and municipalities' involvement to the project is crucial to ensure its success in order to facilitate the communication between the project staff and the people living in the targeted areas, and to ensure the action to be consistent with their strategies and with the local institutional framework.
DCC and Dar municipal councils' representatives have been involved since the beginning of the project.



Municipalities provided authorizations and their commitment to allow the realization of all the project activities: the first cycle of participatory events with the local community through the forum theatre, the ongoing interviews with inhabitants and local institutional representatives about land tenure issues; the support by the officers of the Water Division (Planning Department) of the Municipality during the field visits to design the boreholes monitoring networks; and the availability in participating in the needs assessment necessary to develop the future capacity-building strategy.

DCC and municipalities have also been a useful provider of documents and data during the surveys held through the activities 1.2 and 3.1.

DCC representatives participated actively in the three-days international workshop organized in Dar in June. Their feedback, the general information about the local institutional framework provided and their input will be the premise to build in the most suitable way the capacity-building strategy foreseen under the WP 3.

ISSUES FACED/CORRECTIVE MEASURES:

What constraints/problems are currently being faced? What action has been taken, and by whom, to address these? What further action is required to support effective implementation, by whom and when?

All the assumptions described in the logframe have been fulfilled. They can be summarized in three main ones: the institutional involvement and willingness of local authorities to collaborate in the project, the community involvement and the international travel regulation and organization. The development of the action did not encounter any problem.

Only two adjustments have been required in carrying out the activities 1.4 and 2.2

In particular as regards the activity 1.4, the International Workshop for the external evaluation of the project results has been held in June instead of April to allow the project team to complete the statistical analysis of the big amount of data coming out from about 6000 household questionnaires and to select the external international experts in charge of evaluation.

The timing of the boreholes monitoring campaign was rearranged by the working group due to some delays caused by the strict and long university administrative procedures and by the custom clearance time required to buy the necessary equipments and chemical reagents to perform the water analysis

VALID COMMUNICATION PLAN: YES NO

ANNEX: RESULTS TRACKING TABLE

RESULTS-TRACKING TABLE

Summarise state of progress since the start of the project towards delivering the action expected results.

Compare progress against plans, using log-frame indicators as appropriate.

State whether original OVIs are not applicable any longer and suggest most appropriate SMART indicators.

Result Description	Result Indicator (OVI)	Target	Performance Rating (Red, Yellow, Green)	Progress/Arising Issues	Action Required by the which implementing partner/s
1.1 Livelihoods of population dependent on natural resources and their concern for CC investigated	N. households questionnaire administered/ Households questionnaire validated in the data entry	6000/5885	Traffic Light		
	N. people involved in the Data Analysis training course	26	Traffic Light		
	N. Data Analysis Methodologies implemented	3	Traffic Light		
1.2 Dar's institutional activities related to CC investigated	N. officers participating in the kick off meeting	10	Traffic Light		

	N. officers interviewed	48	Traffic Light		
1.3 Local options of autonomous adaptation and raise awareness on CC explored	N. people involved in the feasibility study	28	Traffic Light		
	Participatory cycles realized	2	Traffic Light	First participatory cycle was held in March 2012, the second cycle is foreseen in September 2012	SAPIENZA & ARU
	N. people involved in the participatory cycles	At least 100 people for each cycle	Traffic Light	Almost 400 people involved in the first participatory cycle held in March 2012, the second cycle is foreseen in September 2012	SAPIENZA & ARU
1.4 1st International Workshop organized	N. Background papers	2	Traffic Light		



	N. papers presented	4	Traffic Light		
	N. people attending the workshop	10 researchers from each university partner country (Tanzania and Italy); 3 seniors from EU universities; and 3 seniors from EAC/SADC universities	Traffic Light	4 senior researchers from EU universities and 2 from EAC/SADC universities	
2.1 Methodologies for monitoring changes in peri-urban settlements developed	N. methodologies developed for monitoring Land Cover changes	1	Traffic Light	2 (two similar methodologies, respectively for LANDSAT images and SPOT images)	
	N. LANDSAT images acquired/ N. LANDSAT classifications/ N. LANDSAT images processed	5 images acquired / 5 classifications/ 5 images processed (period 2002-2010)	Traffic Light		
	N. Landscape Metrics Indices calculated for Land Cover change analysis	8	Traffic Light		

	N. people involved in the training short course on land cover classification and landscape metrics analysis	20	Traffic Light	It will be provided in the 4rd semester	SAPIENZA
	N. methodologies developed for Land Cover validation	1	Traffic Light	1 methodology of validation	SAPIENZA & ARU
	N. methodologies for investigating Land Cover Change correlation with Climate Change	1	Traffic Light	The scenarios will be built once the survey activity has finished	SAPIENZA & ARU
2.2 Methodologies for exploring CC vulnerability scenarios, as regards seawater intrusion phenomenon, developed	N. methodologies for conducting groundwater monitoring campaigns in Dar's coastal plain/ N. georeferenced boreholes / N. boreholes selected for the monitoring network	1 methodology/ 133 georeferenced boreholes/ 90 boreholes selected for the monitoring network	Traffic Light		
	N. groundwater monitoring campaign conducted	1 (consisting of 2 annual and 12 monthly surveys)	Traffic Light	The preparation phase is concluded and the survey activity is started in June 2012	SAPIENZA is leader of the activity ARU is responsible for monitoring

	N. methodologies for the analysis of seawater intrusion /	1 methodology /	Traffic Light	The seawater intrusion analysis is started.	SAPIENZA
	N. maps produced	9 maps (SWL maps, EC maps, Seawater intrusion maps for 1997, 2002, 2012)		The methodology for the analysis of the seawater intrusion phenomenon may be subject to variation in relation to the data collection feasibility of the ongoing monitoring campaign	
	N. methodologies for exploring vulnerability scenarios under climate change /	1 methodology /	Traffic Light	The scenarios will be built once the survey activity has finished	SAPIENZA & ARU
	Number of scenarios explored	3 scenarios explored			
2.3 Methodology for designing community based adaptation initiatives developed	Toolkit for the design methodology	200 copies	Traffic Light	The toolkit will collect the methodologies from 2.1 and 2.2	SAPIENZA & ARU
2.4 2nd International Workshop organized	N. Background papers	2	Traffic Light	2 working papers are now under development	SAPIENZA & ARU
	N. papers presented	4	Traffic Light		SAPIENZA & ARU
	N. people attending the workshop	10 researchers from universities of each partner country (Tanzania and Italy); 3 seniors from EU universities; and 3 seniors from EAC/SADC universities	Traffic Light		SAPIENZA & ARU

3.1 Capacity building strategy prepared	N. Need assessment report of the training needs of municipal staff	1 need assessment for each municipality (Kinondoni, Ilala, and Temeke)	Traffic Light	Report is under elaboration	ARU
	N. Officers involved in the need assessment	At least 40	Traffic Light	50	
	N. capacity-building action plan	1	Traffic Light		ARU & SAPIENZA
3.2 Training programme developed and implemented	N. learning curricula / N. evaluation procedures	2 learning curricula / 1 evaluation procedure	Traffic Light		ARU & SAPIENZA
	N. Training resource book	1	Traffic Light		ARU & SAPIENZA
	N. Officers involved in the training	20	Traffic Light		ARU & SAPIENZA
3.3 Mid term International Conference organized	N. submitted papers	12	Traffic Light		ARU & SAPIENZA
	N. People attending the Conference	100	Traffic Light		ARU & SAPIENZA
	N. Press release	At least 2	Traffic Light		ARU & SAPIENZA

3.4 Dar's municipalities supported in designing adaptation initiatives	N. Adaptation initiatives designed	At least 4	Traffic Light		ARU & SAPIENZA
3.5 3rd International Workshop organized	N. Background papers	2	Traffic Light		SAPIENZA & ARU
	N. papers presented	4	Traffic Light		SAPIENZA & ARU
	N. people attending the workshop	10 researchers from universities of each partner country (Tanzania and Italy); 3 seniors from EU universities; and 3 seniors from EAC/SADC universities	Traffic Light		SAPIENZA & ARU
Dissemination results	N. scientific papers submitted to academic journals	At least 2 related to the result 1.1; At least 1 related to the result 1.2; At least 3 related to the result 2.1; At least 3 related to the result 2.2	Traffic Light	Draft working papers are ready; Draft working papers are ready; Some draft are under development It will start in the 5th semester	SAPIENZA & ARU
	N. evaluation reports	6 (2 evaluation reports for each international workshop)	Traffic Light	2 evaluation report already produced for the 1 st international workshop	SAPIENZA & ARU



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	N. Proceedings (international workshop and conference)	4 proceedings (1 for each international workshop and 1 for the international conference)	Traffic Light	Proceedings of the first international workshop are under preparation	SAPIENZA & ARU
	N. Booklets reporting on designed adaptation initiatives	500 copies	Traffic Light		SAPIENZA & ARU
	N. Posters on the identified adaptation initiative	100 copies	Traffic Light		SAPIENZA & ARU
	N. Web sites	1 web site with a public and a reserved area	Traffic Light	Updating of the contents during the whole project	SAPIENZA
	N. Newsletters	10 (three-monthly based)	Traffic Light	Newsletter will be sent during the whole project	SAPIENZA
	N. Promotional material kit	1 brochure + 1 bag + 1 CD Rom	Traffic Light	Pen-drive has been produced instead of CD Rom. Also t-shirt and posters have been produced for dissemination and visibility during participatory cycles	ARU