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AGRICULTURAL AND BIOSYSTEMS ENGINEERING

Date: 18th June 2012

Our Ref: ER/05/2012

Prof. Gabriel R. Kassenga,
Ardhi University,
P.O. Box 35176,
Dar Es Salaam, Tanzania.

Dear Sir,

Re: Submission of evaluation report for ACC DAR project Activity 1.1 working paper

Reference is made to your letter ARU/A.4033 dated 4th June 2012 and the signed contract on the 6th June 2012 engaging my services in evaluation of working paper report documenting results of Activity 1.1: Investigating the livelihoods of the population dependent on natural resources and their concerns regarding climate change for the project title 'Adapting to Climate Change in Coastal Dar es Salaam.

I am pleased to inform you that I have completed the assignment and attached please find a formal evaluation report detaining the comments, suggestions and recommendations on ways of improving the report on Activity 1.1: Investigating the livelihoods of the population dependent on natural resources and their concerns regarding climate change, based on the critical reading of the report.

May I take this chance to sincerely thank you for providing the opportunity to work on this very important assignment. Lastly once the report is accepted by the client, payment for the service can be made through the attached bank details.

Dr. Emmanuel C. Kipkorir

Bank details for payment

Name: Emmanuel Kipkorir Chessum

Name of Bank: CO-OPERATIVE BANK OF KENYA

Branch Name: Eldoret, Code: 013

Physical Address: Co-operative Bank Building, Ronal Ngala Street

City: Eldoret

Country: Kenya

Acc/No: 01116183777700

Swift Code: KCOOKENA

Project working paper evaluation report for:

Activity 1.1: Investigating the livelihoods of the population dependent on natural resources and their concerns regarding climate change for the project title 'Adapting to Climate Change in Coastal Dar es Salaam'

Prepared by

Dr. Emmanuel C. Kipkorir

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1. Object of Engagement: Evaluation of the results of *Activity 1.1: Investigating the livelihoods of the population dependent on natural resources and their concerns regarding climate change* for the project title *'Adapting to Climate Change in Coastal Dar es Salaam'* referred in short as **ACC Dar project** in this report.

2. Extent of Services: The assignment given to me that I am presenting in this formal evaluation report, entailed adequacy and accuracy of the following services:

   (a) Critical reading of the report on Activity 1.1: Investigating the livelihoods of the population dependent on natural resources and their concerns regarding climate change and evaluation of its content on the basis of the expected outputs specified in the project proposal.

   (b) Give comments and recommendations on improvement of the report on Activity 1.1: Investigating the livelihoods of the population dependent on natural resources and their concerns regarding climate change, based on the critical reading of the report.

3. Entry and Duration of engagement: The engagement become effective by signing the contract of engagement by Dr. Emmanuel C. Kipkorir (Evaluator) and Prof. G.R. Kassenga (Project Local Coordinator) on the 6th of June 2012 in Dar es Salaam and the duration of the engagement was estimated to be four (4) weeks from the date of signing the contract.

4. Materials provided: The following materials and facilitation was provided to accomplish the assignment:

(a) Project proposal document of 32 pages in length

(b) Working paper report titled Activity 1.1: "Investigating the livelihoods of the population dependent on natural resources and their concerns regarding climate change" of 88 pages in length and dated Rome 14th May 2012.

(c) On invitation by the Project Local Coordinator the evaluator attended an International Workshop on SUB-SAHARAN CITIES UNDER CLIMATE CHANGE, Exploring the adaptive capacity of peri-urban settlements in coastal Dar es Salaam, Tanzania held in Dar es Salaam between 6th June -8th June, 2012. The objective of the workshop was to evaluate the results of the audit exercise on the adaptive capacity of peri-urban households and institutions (activities 1.1 and 1.2, ACC DAR project); and to provide an opportunity for sharing information and exchanging ideas among researchers, and stimulating initiatives for international networking.

(d) Based on the detailed reading of the Activity 1.1: "Investigating the livelihoods of the population dependent on natural resources and their concerns regarding climate change" report and following the 30 minutes power point presentation of the Activity 1.1 report made by Dr. Liana Ricci the corresponding author on the 6th June 2012, I did make a presentation of the initial discussion and evaluation of the results of the report for 30 minutes followed by comments by workshop participants drawn from the two collaborating universities (Ardhi and Sapienza), staff from Dar es Salaam city department of Planning among other participants.

(e) Four (4) hours field visit at Ununio in Kinondoni Municipality by all workshop participants on the morning of 7th June 2012.

5. Context/background of the project

The report being evaluated should outline the project aim and strategy with regard to the situation analysis developed in the project document, describing the overall context in which the project was proposed and the specific problem it intended to address and by reading through the document the introduction part establishes the following:

- The stated aim of the ACC Dar project is to improve the effectiveness of municipal initiatives in Dar es Salaam that support the efforts of those coastal peri-urban dwellers, partially or totally dependant on natural resources.

- More specifically, the project is expected to enhance the capacities of Dar's municipalities by increasing their understanding of adaptation practices and by providing them with enhanced methodologies for mainstreaming adaptation into their Urban Development and Environment Management (UDEM) strategies and plans. The achievement of these objectives is expected to contribute to the overall goal of improving implementation of the National Adaptation Programme of Action (NAPA) of the United Republic of Tanzania.
- To be able to build a better understanding of adaptation, the study conducted extensive surveys and the analysis of collected data from the household questionnaires was done to propose a framework for assessment of the adaptive capacity of people living in the peri-urban areas of coastal Dar es Salaam.

6. Study objective and components

As indicated in the project proposal and in the Activity 1.1 report being evaluated, the overall objective of the study was to provide an assessment of climate related concerns and the adaptive capacity of the population living in coastal Dar's unplanned and under-serviced neighborhoods, where the dependence of livelihoods on locally available natural resources is usually quite high. The stated general objective is appropriate for the stated context and background of the project and by adopting appropriate methodology and analysis techniques the planned outputs and outcomes are expected to be valuable. Reading through the two provided documents (Project Proposal and Activity 1.1 report) I can state that the activities that were implemented in the study were successful as proposed in the proposal document.

7. Information about the evaluation process

The goal of the assignment was to evaluate the project document but no specific criterion was provided, therefore I decided to review the document so as to make comments and suggest corrections where necessary so as to improve the document further. Thus the methodology adopted for the assignment that lasted the duration period of the engagement was critically reading the provided report on Activity 1.1, following the workshop presentation made by the authors of the report, discussion by the workshop participants and also the benefit of physically visiting some sections of the study area. Therefore following the adopted methodology, comments and recommendations on ways of improving further the Activity 1.1 report are presented in this formal evaluation report.

8. Critical report reading

In the following sections a summary of the general comments, specific comments and key findings and conclusions derived by critically reading the reviewed Activity 1.1 report are presented.

8.1 General comments

(a) The paragraphs through out the document should be improved such that similar information is presented in one paragraph.

(b) Introduce third level of numbering the sub-headings for example:

2.1	Preliminary activities
2.1.1	Pilot study
2.1.2	Preliminary Survey
2.2	Methodology for Data Collection and Analysis
2.2.1	Sampling Plan
2.2.2	Data Analysis Techniques
2.2.3	Limitation of the Study

(c) By adding some few key photos presented as plates would enrich the document further as was the case in the power point presentations during the workshop.

(d) Regarding the climate change vs environmental change and for what period of time was the change observed, it was explained during the workshop that interviewees were asked to refer about the changes they observed in environmental conditions during the last year – especially environmental stresses - and whether they attribute those changes to Climate Change and/or other causes, however reading through the document this is not clearly captured. Therefore this clarification should be done in the appropriate section in the document.

(e) By reading the document, it is not clear who was the respondent in the household survey. Was it the household head as normally should be expected or someone else in the household. The procedure used in the determination of respondent interviewed should be stated since it has a strong bearing on the data collected.

(f) The household questionnaire tool used provided an overview of interviewees' opinions. Therefore this should be more clearly stated in the report and since it informs the analysis as well as conclusions and recommendations made.

(g) Regarding quantitative vs qualitative analysis of the commendable large amount of data collected. By reading through the report, it is noted that most of the results based

on the analyzed data are presented mainly as frequencies in percentage and as cross tabulation. Though this is very commendable, it would be more interesting to do an in depth statistical significant tests analysis of the data to establish more relationships among the various variables measured if they exist. Further it is strongly suggested to undertake case studies and it was reported that this will be done in the next project stage, after having identified about 3 or 4 neighborhoods where the design exercise will be performed.

(h) The observed and measured environmental changes through the household survey questionnaire represent opinions of households of the result of a complex set of factors linked to global warming, anthropogenic pressures for example population and inadequate local environmental management as correctly stated in the report. Attempt should be done to further analyse the data and make interpretation to determine the major factors that explains the observed environmental changes.

(i) Under sections **3.5 Climate Change Adaptation** and **3.6 Adaptive profiles** the authors should be commended for good work in the analysis and discussion of the results, however in the conclusion section the key findings should be presented briefly and preferable in a numbered way while avoiding further discussion.

8.2 Specific comments

Following are some the specific comments and suggested areas of corrections to be made to further improve the document:

Page 3: Table 5 – caption is missing in the list of tables and should be corrected by effecting necessary formatting.

Page 4: Tables 11 to 16 – caption missing in the list of tables and should be corrected by effecting necessary formatting.

Page 11: Environmental change is identified as one of the four major areas of investigation to better understand the components of the adaptive capacity of Dar's Peri-urban, however climate change is mentioned in Page 12, Figure 3: Household Questionnaire Structure. Need for clarification on which term between environmental change and climate change was adopted and what period of time was the change investigated.

Page 12: Who were the four trained ARU staff who conducted interviews to collect the recommendable amount of data between September and November 2011.

Explanation on the issue is expected in the report so as to appreciate the extent of collaboration and local capacity building in the project.

Page 12: Last line from bottom, give the year and reference for the statement … *120,000 households identified in the census data*.

Page 13: Given that the target areas for administering the questionnaire were the peri-urban settlements located in the coastal plain of Dar es Salaam, there is need for presenting the criteria used to characterize the coastal plain of Dar es Salaam. The criterion is crucial since it is the basis which defines the study area boundaries and impacts on the adaptive measures of climate change being investigated in the ACC Dar project. Therefore as was explained during the discussion section of the workshop the criteria to define the "coastal plain" in the frame of ACC DAR project should be developed and once that decision is made, analysis of data from household survey should be revised.

Page 13: Given that the following geographical features (shoreline, river, lowland or swamp, etc.) and key transport infrastructure (roads, rails,) determined the selection of households sampled, it is suggested that the selected/considered geographical features and roads networks be overlaid in Figure 4 - Household Questionnaire Distribution and possible GIS analysis be done in later project stages.

Page 14: Given that the target areas for the questionnaire were the peri-urban settlements located in the coastal plain of Dar es Salaam, it seems from Figure 4-Household Questionnaires distribution, that some sampled households falls outside the target areas located in the coastal plains. A clarification is required for this, further, it seems most of the sampled households were clustered together and may raise the question of how was biasness minimized in sampling the households.

Page 16: For a good flow of the document, it is strongly recommended that Figure 5-sampled wards is move to page 17, so that explanation of details is given first then followed by Table 2 and Figure 5. The same comment applies to other sections of the report.

Page 18: Avoid leaving allot of empty space in a page – this can be avoided by formatting the sizes of the figures.

Page 22: For comparison purpose give the exchange of TSh to the US$ during the period of survey for easy comparison of the results with other regions by readers external to Tanzania.

Page 25 and Page 26: Same data for *Main Source of Income by Ward* is presented in both Table 4 and Figure 15. There is need of avoiding making presentation of the same

data in two different methods (table and figure), it is suggested that one method of presenting the data preferable a figure be use.

Page 31: Give caption to Table 5 to avoid the error mentioned in the Table of contents.

Page 35: For the non-English words for example (daladala) and (Bajaj and pikipiki), it is suggested that italic font format be adopted for example (*daladala*) and (*Bajaj and pikipiki*). The same comment applies to the rest of the document.

Page 40: The use of the word **tax** needs to be reconsidered, normally **rent** is paid on monthly basis to the tenant and tax is paid annual for land for example or tax is collected through purchase of goods and resources. On the other hand for consumed resources for example water and electricity, use of the term **bills** paid monthly for used amount of resources could be much more appropriate.

Page 41: In Table 35, consider using solid waste in place of waste.

Page 41: If the data for water and electricity tariffs are available, it would be interesting to estimate or quantify the quantity of electricity and water used by each class for easy comparison to other geographical regions or countries for example.

Page 44: In the discussion of the cost of wastewater collection, it would be important for the reader to be informed about the type of infrastructure used.

Page 45: Under Water management, it is important to state the general quality of water from the various sources and available treatment options, since it has an impact on the public health of the target population.

Page 45: The use of the terms **ground pit** and **well** in relation to available water sources need clarification. It is recommended that standard term for example: well, bore hole, protected well among others be considered for use where appropriate.

Page 54: Key for Figure 55 is required to indicate the special observed environmental changes by ward.

Page 66 – Page 68: The captions for Tables 11-16 are missing and should be provided to avoid the error mentioned in the Table of contents.

Page 71: It could be interesting to the reader if a quantification of the percentages of each of the two types of adaptation profiles can be provided i.e. "resistance" or "flexible" and if there is evidence of some households showing tendencies of switching from one adaptive profile to the other.

8.3 Conclusion and recommendations

The study adopted acceptable methods of data collection and analysis and the findings were presented, however as indicated above there is room for improvement mainly in the presentation of the findings and in the conclusions. The suggested general comments and specific comments/corrections should be implemented to improve the document further after which the working document should be accepted.