MONTHLY REPORT

Month Covered in this Report:	June 2017 (Period: 1st – 31st July 2017)
Consultant Name:	Badabate Diwediga
Organization:	Information Management and Mine Action Program
Mailing Address:	iMMAP Jordan Office; bdiwediga@immap.org
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Title:	Junior Cartographer for the project "*Impact evaluation of SLM options to achieve land degradation neutrality in Tunisia*".

A. OVERVIEW OF THE OBJECTIVES COMPLETED FOR LAST MONTH

This report provides an overview of the main tasks accomplished during the period 1st – 31st July 2017 in the context of the project "Impact evaluation of SLM options to achieve land degradation neutrality in Tunisia". It reviews accomplishments and provides further plans for the forthcoming needs. It also reports some of the challenges and lessons learned so far regarding task accomplishment the objectives set for the month of July. The objectives were the following:

- Continue the follow up for the improvement of the GeOC system
- Write a working paper and other technical documents
- Start uploading and submitting the SLM data to the GeOC system, in case the performance level of the tool is sufficiently advanced.

In line with the project activities, other tasks were also reported, even though they were not planned for the month.

B. DETAILS OF THE ACCOMPLISHED TASKS DURING THE MONTH

B1. Follow up for the improvement of the GEOC system

In order to ensure that the WebGIS and SLM web form function sufficiently and allows easy integration of the two components, some works were undertaken. In line with these activities, and in collaboration with other team members, interactions with the IT Developer and GIS developer were impactful in terms of suggestions for improvement needs of the GeOC. The most important aspects are the following:

- **Several check up of the WebGIS system**

In collaboration with the GIS/Geospatial developer, the WebGIS functionalities gained much attention. Several checkups were conducted to ensure the system is sufficiently functioning as it is still unstable up to now. Some misbehaviors of the weGIS were constantly reported to the GIS developer, who attempted several times to overcome them remotely. Accordingly, a prepared list of tasks for improving the performance of the WebGIS was discussed with the project team in order to allocate tasks to the GIS developer for revising/fixing the WebGIS. Currently, the check-ups are still going on and will continue during August, with much more attention as the GIS developer will be present in the regional office of iMMAP in Amman. Some expectations are that some closer collaboration will accelerate the task achievement and ensure sufficient functioning of the WebGIS.

- **Revising the SLM OxC template in line with the SLM Web form**

Following the team discussions and based on some suggestions from the IT developer, the SLM OxC template was revised several times to not only improve the consistency of the tool, but also to match the information fields with some logical considerations. For instance, the re-numbering of the fields, the highlights of inherited and modified fields from WOCAT, were edited in the previous version of the template. This resulted in the production of SLM OxC template v3. In addition, several revisions of the information pop-up in the SLM web form were made jointly by the team. Currently, these revisions/suggestions for improvement are being implemented online by the IT developer. Furthermore, this revised SLM OxC v3 was shared to the national consultants

in Tunisia for their usage. It is important to highlight that this new version of the template induced many changes and still under constant adjustments to fit with the web implementation.

B2. Writing of working paper and other technical documents

The two main aspects covered under this objective were (i) the development of a working paper (see sub-section B2.1), and (ii) the writing of a technical document describing the WebGIS database (see sub-section B2.2).

B2.1. Working paper writing

The writing of a working paper is initiated on the following working title "*Land Cover Change Impacts on Landscape Diversity across Different Socio-Agro-Ecological Contexts in Tunisia (Northern Africa)*". This WP is being developed towards the accomplishment of a research manuscript targeting the "Journal of Arid Environments". The WP focuses on two main aspects: (i) the analysis of the land use/cover change (LUCC) between 2001 and 2013 using the yearly MODIS MCD12Q1 products (as mentioned in the Technical Report on land cover change analysis), and (ii) the proxy assessment of LUCC impacts on ecosystem services across different contexts of Tunisia. The status of the WP is at an data analysis and mapping stages (Draft Working Paper) and might be finalised by next month (August).

B2.2. Writing other technical documents

Mainly, a technical document is written to describe all the raster files of the WebGIS database. This document aims at serving as a help or quick support to the visitors/users of the WebGIS domain, and the SLM Web form. It will help to quickly have an overview of each of the WebGIS rasters. The most important aspects detailed in this documents are:

- A brief decription/definition of the data,
- The main source of the data, where further information is available on the methodological approaches and the data used for developping the data,
- A map showing the spatial patterns of the variable at the global level
- The value range (for continuous variables) or the categories/classes (for non continous variables) of each raser data,

- The contextual importance/relevance of the data in the context of the GeOC,
- The function used to retrieved each variable and the mention of the corresponding appropriate box in the SLM Web form.

The first draft of this document is available here and needs further reading and comments in order to improve its quality.

B3. Upload and submission of the SLM data to the GeOC system

This task was planned to be performed in case the performance level of the GeOC tool is sufficiently advanced. Unfortunately, the tool is still under improvement/revision. Due to this instability of the GeOC system, no data upload/submission was undertaken. This task might be effective during the month of August, in case all the system functionalities become operational and stable. However, the manual data retrieving from GIS database to the SLM attributes was initiated as part of unplanned activities in replacement of this unaccomplished task (see Section B4. Other activities).

B4. Other activities: unplanned package performed during the month

- **Raster data retrieval from GIS database to SLM attributes**

Previously unplanned, this task was initiated in order to remedy the delay due to the on-going fixation of the WebGIS and SLM WebGIS. At the reporting time, the attributes of only four (04) SLM OxC shapefiles were provided with the 34 GIS raster attributes defining the "Contexts/Drivers" and "Impacts/Outcomes" settings at the different SLM sites. These SLM OxC are: "Area Enclosure", "Biological fixation of sand dunes", "Mechanical stabilization of sand dunes", and "Oasis".

- **Review of the first submission of the SLM data from the national consultants**

A first template SLM OxC describing Jessour technology in 3 different sites in Southern Tunisia was received from the consultant Dr Ouessar. A review was then achieved and feedback comments were sent to the consultant. Some further interactions held between the consultant and the supervision team in order to improve understanding of some elusive and important aspects on the data.

C. ASSOCIATED CHALLENGES OF COMPLETED MONTHLY OBJECTIVES

Despite the achievements highlighted in the previous sections, the accomplishment of the objectives projected for this month was confronted to some challenges and constraints that hampered the progress as wished. The most salient ones are the following:

- There are some challenges related to the delay in clarifying the final template in which SLM data should be migrated and uploaded. This is mainly due to the fact that the template was constantly revised. There is a need to work several times on the same template to adapt and match it with the web form. Hopefully that this revisons are actually the last in order to ensure everything is set on time.
- The follow-up tasks especially with the WebGIS developer was most tricky due to the remote work, causing communication challenges, and misunderstanding of the required adjustements/revisions on the WebGIS. This made the follow-up less efficient, in addition to his unavailability to handle the issues as expected. Hopefully that his arrival on site at the regional office will be of the advantage to speed up the WebGIS fixation.

D. NARRATIVE & LESSONS LEARNED

The month of July has also helped in capturing much information and understanding of the core principles of GeOC functionalities. With sustained support of the team, important works are conducted to foster a better performance of the GeOC. Much has been accomplished, but more remains to be done around the GeOC tool in order to ensure the achievement of the ultimate goal (robust GeOC system and impact assessment of the adoption of SLM options using the GeOC tool) of the project in real time. The works already undertaken are capitalized to ensure resource availability for the forthcoming activities. The following are some of the lessons learned from the analysis of the progress during this month:

- The constant changes/revisions on the tool induce some delays in accomplishing other planned tasks. Since there is no perfect accomplishment, there is therefore no need for multiple changes. What seems important to my opinion is to make sure there is an

alpha version of the tool that works perfectly and usable for the accomplishment of the project objectives. Further improvements may follow up and make the system more consistent and stable.

- Associated with a future potential challenge, there is a feeling of the real importance and capability of the spatial characteristics of the retrieved GIS data in the impact assessment. In fact, 1 km spatial resolution of the rasters is coarse enough to provide real insights in the assessment of the SLM OxC adoption, even though seems to be at landscape level, is site-specific adoption. The difficulty will emerge from the comparison between sites with SLM and those without SLM, as the scale of SLM adoption (mostly at field or site level) is less than the spatial resolution of the raster database in the GeOC system. Another dimension of the coarse resolution is that the SLM adoption is almost widespread in both sites making difficult the distinguishing between sites with SLM and those without SLM to be captured by these coarse resolution data. Finer resolutions look desirable for better impact assessment of SLM adoption.
- In view of the experiences and the lessons learnt until now, there is a need for anticipating some activities to ensure the impact assessment component of this project. In this regard, the most important measures formulated, based on the current situation of the GeOC is to be more effective in data extraction for parallel works while waitng for finalisation of the GeOC. While expecting that the suggestions for revising the GeOC system to be impactful, there is a worry related to the time becoming short, as the project is getting to the end.

E. OBJECTIVES PROJECTED FOR NEXT MONTH

Since there are still unaccomplished objectives for this month of July, the will rescheduled for August with the hope that they will be accomplished. In addition, new tasks are planned for this new month, making the portfolio of tasks/objectives as follow:

- follow up for the improvement of the GeOC system (continue the revisions in close collaboration with GIS developer (Mr Jim Jaspe) Submit the SLM data to the GeOC system, in case the performance level of the tool is sufficiently advanced.

- Finalise the draft 1 of the working paper on "*Land Cover Change Impacts on Landscape Diversity across Different Socio-Agro-Ecological Contexts in Tunisia (Northern Africa)*"
- Finalise the Excel SLM database by extracting the Raster data using GIS tool. This can help in drafting the skeleton of a working paper on the "Impact assessment of the adoption of the SLM technologies in Tunisia".
- Perform continuous review of the datasets submitted by the national consultants in Tunisia, in order to consolidate and document the SLM database for the project.

LIST OF ANNEXES (See attachments)

Annex 1. Standardised SLM OxC Excel Template Version 3 English.

Annex 2. Draft working paper on "*Land Cover Change Impacts on Landscape Diversity across Different Socio-Agro-Ecological Contexts in Tunisia (Northern Africa*)"

Annex 3. Draft technical document describing the WebGIS data domain.