Report on the outcomes of a Short-Term Scientific Mission[1]

Action number: CA17108

Grantee name: E-COST-GRANT-CA17108-a064db0c

Details of the STSM

Title: **Field evaluation of the VECTRACK sensor coupled to odour-baited mosquito traps in a tropical environment**

Start and end date: **13/10/2022 to 22/10/2022**

Description of the work carried out during the STSM

Description of the activities carried out during the STSM. Any deviations from the initial working plan shall also be described in this section.

-Search for a proper spot in the island to install the sensor that met the following criteria: shadow, protected from the rain and wind, with power supply, with previous presence of mosquitoes.

-Indoor sensor calibration (tests to check the functioning of the sensor prior to the installation in the field).

-Online meeting among the partners involved to teach about the use of the sensor software: data visualization and acquisition.

-Assembly of the sensor to a BG-Mosquitaire and installation in the selected spot.

-Sample collection and taxonomical identification and counting of the samples.

-Developing of a follow-up working plan to be carried out by the pest management technicians of the island.

-Developing of an Excel database to introduce the data collected during the study.

-Face-to-face meeting with the pest management team of the island to explain the meaningful technical considerations to take into account during the study and analyse the potential implementation of the designed work plan in the island.

-Collaboration in AIM surveys performed by the pest management team in the island: Aedes albopictus egg collection from ovitraps installed in a near semi-wild sylvatic island.

[1] This report is submitted by the grantee to the Action MC for approval and for claiming payment of the awarded grant. The Grant Awarding Coordinator coordinates the evaluation of this report on behalf of the Action MC and instructs the GH for payment of the Grant.

Description of the STSM main achievements and planned follow-up activities

Description and assessment of whether the STSM achieved its planned goals and expected outcomes, including specific contribution to Action objective and deliverables, or publications resulting from the STSM. Agreed plans for future follow-up collaborations shall also be described in this section.

The objective of the STSM was to implement the use of the sensor in a tropical climate country like Maldives by analysing its potential applicability to Maldive's environmental conditions of high temperatures, humidity and intense episodes of rain, among others; and their specific mosquito species composition (*Aedes albopictus* and *Culex quinquefasciatus*)

Since the sensor operates with a Maldivian mobile SIM card to send data wirelessly to a cloud server, the first goal was to test that the signal was arriving properly to the server in Spain. Once this was checked, the installation in the field could be done and the first correlations could be performed between data collected by the manual inspection of the samples and data predicted by the sensor (downloaded from the sensor software). Further work should be conducted to collect more data to design an appropriate statistical analysis and verify the applitation of this technology for the remote monitoring of mosquito populations in the island, i.e. "a proof of concept"of sensor operation.

One critical point was to develop a future workplan to be implemented by the pest management technicians of the island considering several decissive aspects like: time avaliability, previous training and skills in analysing and processing samples, resource's availability, etc. Once the work plan was consensuated by all parts, the main expected outcome would be the publication of a future collaborative paper with the results of this study.

The objectives for the STSM conceived in the framework of the AIM COST action have been acomplished satisfactorily and future collaborations between institutions will take place to follow-up the work initiated during the stay.