

PROJECT SUMMARY

Ref No.: MRIC/SISM-BG-30	Title: Development of smart agroecology practices in tropical rooftop geodesic greenhouses
Local Company: Organic Tropical Agriculture (OTA) Ltd	
Collaborating Institution: JUA Group Ltd	
Project Leader	
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Research Collaborator(s)	
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TECHNICAL ABSTRACT	
The project draws on a previous project funded by the MRIC which enabled the design, construction of geodesic rooftop greenhouses and subsequent testing of vegetable cultivation in a 4m diameter greenhouse. For the present project, 10 greenhouses will be produced with an efficient optimized design to implement agroecology principles applied to the 4 semi-edaphic zones prevailing in Mauritius (Insolation, humidity and temperature). Of the limited series of 10 greenhouses, 8 will be installed at referent users rooftops in the identified climatic zones and 2 will be operated by OTA on a demonstration site. The effectiveness of the control and embedded automation devices, as well as the organic gardening protocols with regard to specific climatic parameters will be monitored throughout an 8-month follow-up period. All the greenhouses will be equipped with atmospheric (insolation, humidity) and soil (redox) sensors, resulting in the production of data which will be supplemented by chemical analyzes (NPK). This monitoring protocol will require the full commitment of referent users for the crop cultivation as well as for the rigorous agronomic and key parameters observations. The scientific analysis of results will enable the establishment of accurate climatic control as well as phytosanitary needs within the greenhouses environment.	
Key Words: Greenhouses, Crop cultivation	