LAGI 2025 Narrative Document - VUVALE

1. Concept Narrative • Vuvale is designed to bring the community of the village together and create a memorable experience. The construction of the building is simple and not meant to be overly complicated. The solution focuses on the preservation of traditional imagery and disciplines as well.

2. Technical Narrative • The main technologies used on the design are solar power, reverse osmosis and GFRC shooting. Reverse Osmosis is the best and most thorough way to filter rainwater. Using three of the Vucale structures, there is a total of 500 square meters of solar panel, which generates an estimated 150,000kWh yearly. Plenty of water is collected in the underground reservoir which is then run through filtration for drinking. Inputs of the system are solar and rain water and outputs are electricity and drinking water.

3. Prototyping and Pilot Implementation Statement • Prototyping can be done by testing GFRC on steel and experimenting with that construction process. A simple full scale wooden model can be made to get a feel for the design and make changes if necessary. Because local involvement is desired, almost the entirety of labor could be completed (with necessary tools and training) by the local population which adds local social value to the structure and aids the community in claiming the installation as their own.

4. Operations and Maintenance Statement • Required maintenance of the structure will include cleaning surfaces for effective solar panels and clean water, reapplying sealants and coatings, and changing water filtration components. All of these can be done by the local community, especially when the structure is assembled with longevity in mind.

5. Environmental Impact Assessment • The environmental impact of the structure is very low and is affected only by the production of its materials. GFRC is environmentally friendly because it uses less cement than traditional concrete, reducing CO2 emissions associated with cement production. Its lightweight nature lowers transportation energy and fuel use, while its durability minimizes the need for repairs and replacements. Additionally, GFRC can incorporate recycled materials and generates less construction waste.