

BoQ OF GREENHOUSE DIMENSIONS 20m x 8m IN (AF-GOYE)

#NO	Item Description	Unit	QTY	Rate(USD)	Amount(USD)
1	<p>Structural Design - Length: 20m</p> <ul style="list-style-type: none"> - Width: 8m - Height: 3.5m (sidewalls), 4.5m (peak) to enhance hot air rising and airflow. - Roof Design: <ul style="list-style-type: none"> - Slope: 15–20° low-profile gable or rounded roof to reduce wind uplift. - Reinforced Trusses: Double-lattice steel trusses spaced 2.5m apart (instead of 4m) for high wind resistance. - Foundation: <ul style="list-style-type: none"> - Concrete piers: 50cm x 50cm footings embedded 0.6m deep. - Ground anchors: Steel cables or earth screws for lateral wind load resistance. - Anti-wind clips: Reinforced panel fasteners to prevent uplift. - Shade System: <ul style="list-style-type: none"> - Retractable 55–60% shade cloth (externally mounted to block direct sunlight). - Cooling paint: Reflective whitewash or temporary shade coating for summer 	M2	160		
2	<p>Frame Material</p> <ul style="list-style-type: none"> - Primary Structure: Heavy-duty galvanized steel (120mm x 60mm tubing) with powder-coated finish for UV and corrosion resistance. - Bracing: Diagonal cross-bracing on walls and roof for rigidity. - Wind Rating: Designed to withstand 120–130 km/h (75–80 mph) winds. 	M2	840		
3	<p>Covering Material</p> <ul style="list-style-type: none"> - Roof/Walls <ul style="list-style-type: none"> - 10mm triple-wall polycarbonate (UV-coated, 55% light transmission) for heat insulation and hail/wind resistance. - Anti-wind clips: Reinforced panel fasteners to prevent uplift. - Shade System: <ul style="list-style-type: none"> - Retractable 55–60% shade cloth (externally mounted to block direct sunlight). - Cooling paint: Reflective whitewash or temporary shade coating for summer 	Lm	1		

4	<p>Ventilation & Cooling</p> <ul style="list-style-type: none"> - Passive Ventilation: <ul style="list-style-type: none"> - Roll-up sidewalls (2m height) with insect screens for cross-ventilation. - Continuous ridge vents (40cm width) for hot air escape. - Active Cooling: <ul style="list-style-type: none"> - Evaporative cooling pads (15cm thick cellulose) on the leeward side. - Misting system: Overhead nozzles for humidity/temperature control. 	M2	320		
5	<p>Wind Mitigation</p> <ul style="list-style-type: none"> - Windbreaks: <ul style="list-style-type: none"> - Perimeter trees or mesh windbreak fences (50% porosity) 10–15m from the greenhouse. - Solid baseboards (1m high) to deflect ground-level winds. - Door Design: <ul style="list-style-type: none"> - Heavy-duty sliding doors (2.5m x 2.5m) with reinforced tracks and dual locks. - Secondary storm shutters for extreme wind events. 	LM	1		
6	<p>Irrigation & Water</p> <ul style="list-style-type: none"> - Drip irrigation: Automated system with moisture sensors to conserve water. - Rainwater harvesting: Reinforced gutters and 20,000L storage tanks (buried to reduce evaporation). 	Ltr	1		
7	<p>Flooring</p> <ul style="list-style-type: none"> - Material: Light-colored gravel (10cm depth) to reflect heat. - Drainage: Sloped floor (2% gradient) and French drains to prevent flooding during storms 	lm	1		
8	<p>. Automation & Sensors</p> <ul style="list-style-type: none"> - Climate control: <ul style="list-style-type: none"> - Automated vents, and shade systems triggered by temperature/humidity sensors. - Wind-speed sensors to retract shade cloth or close vents during storms. - Remote monitoring: Real-time alerts for system failures or extreme weather. <p>Pest control: Double-door entry with air curtains, fine mesh (200-micron) insect screens.</p>	lm	1		
	<p>Provision of Elevated with steel structure Water Tank with capacity 20,000L accompanying of the pipe installation in parallel manner</p>	Nr	1		

	Planting Prepare the soil or growing medium with appropriate nutrients and pH levels. Start seedlings or obtain plants suitable for the greenhouse environment. Seed Packs: Spinach(koosto), Tomato(yaanyo) and Sweetperper(balbalooni) Provide Assorted original seed for one season. Establish compost manure measuring 3M X 3M X 3M .	lm	1		
	Training package: of teachers and CECs on the use the green houses/school gardens	lm	1		
	GRAND TOTAL FOR ONE GREENHOUSE				
	TOTAL OF TWO GREENHOUSE				