**Detailed Budget Breakdown of Construction of 50 classrooms in Makod Primary School and providing furniture to 2,000 students**

**1. Construction Costs**

**a. Site Preparation & Excavation**

**Clearing & Leveling:** This includes removing vegetation, rocks, and any debris from the site.

Cost: $20,000

Labor: 10 workers for 2 weeks at $500/week.

Equipment: Hire of bulldozer or backhoe for 3 days ($1,500/day).

Materials: None.

**Excavation & Foundation Work**: Digging for foundations, trenching for plumbing, etc.

Cost: $30,000

Labor: 15 workers for 3 weeks at $500/week.

Materials: Concrete, sand, gravel, and reinforcing steel.

Concrete (40 cubic meters): $8,000

Reinforcing steel: $5,000

**Drainage & Water Management:** Ensuring proper drainage systems for the construction site to prevent flooding.

Cost: $10,000

Labor: 5 workers for 1 week.

Materials: PVC pipes, gravel for drainage channels.

**Total Site Preparation: $60,000**

**b. Building Materials**

Cement, Sand, Gravel, and Aggregates

Cement (200 tons): $20,000

Sand (100 tons): $8,000

Gravel (100 tons): $7,000

Aggregates for foundation & walls: $15,000

**Total: $50,000**

**Steel Reinforcement (Rebar)**

Cost: $25,000

Rebar for 40 classrooms: 10 tons of rebar for each classroom.

Unit cost: $2,500/ton. Estimated 10 tons per classroom.

**Bricks/Blocks for Walls**

Cost: $40,000

Material: Concrete blocks or baked clay bricks, depending on availability.

Units: 100,000 blocks, at an estimated cost of $0.40/block.

**Roofing Materials**

Cost: $35,000

Materials: Corrugated iron sheets, roofing trusses, and fasteners.

Unit Cost: $700 per classroom for roofing (40 classrooms total).

**Windows and Doors**

Cost: $15,000

Windows: 2 windows per classroom, using aluminum or PVC windows.

Doors: 1 door per classroom, standard steel doors.

Unit Cost: $300 per window, $250 per door.

**Flooring Materials**

Cost: $10,000

Flooring: Cement flooring or tiles, depending on local availability and affordability.

Unit Cost: $200 per classroom.

**Total Building Materials: $175,000**

c**. Labor Costs**

**Skilled Workers**

Masons (5 workers): $15,000

Daily rate: $50/day. 2 months of work per mason.

Carpenters (5 workers): $10,000

Daily rate: $40/day. 2 months of work per carpenter.

Electricians (2 workers): $5,000

Daily rate: $50/day. 2 weeks for electrical work.

**Unskilled Labor (General Laborers**)

Cost: $15,000

Units: 10 workers for 3 months at $40/week.

**Project Supervisors & Managers**

Cost: $10,000

Project Manager (1): $5,000 for the duration of the project.

Site Supervisor (1): $5,000.

**Total Labor Costs: $55,000**

**d. Utilities & Infrastructure**

**Electrical Wiring, Fixtures, and Fittings**

Cost: $10,000

Materials: Copper wiring, switches, sockets, light fixtures.

Labor: 2 electricians for 2 weeks at $50/day.

**Plumbing (Water Supply & Sanitation)**

Cost: $10,000

Materials: PVC pipes, faucets, and sanitation fixtures.

Labor: 2 plumbers for 2 weeks.

**Sewerage & Waste Management**

Cost: $5,000

Materials: PVC piping, cement, construction of septic tanks.

Labor: 3 workers for 2 weeks.

**Total Utilities & Infrastructure: $25,000**

**2. Classroom Furniture**

**Desks and Chairs for Students**

Cost: $40,000

Desks: 30 desks per classroom, 40 classrooms.

Unit Cost: $50 per desk.

Chairs: 30 chairs per classroom, 40 classrooms.

Unit Cost: $20 per chair.

**Teacher’s Desks & Chairs**

Cost: $5,000

Units: 1 teacher’s desk per classroom, 40 classrooms.

Unit Cost: $100 per desk.

**Blackboards**

Cost: $5,000

Units: 1 blackboard per classroom.

Unit Cost: $100 per board.

**Total Furniture: $50,000**

3**. Architectural Design and Engineering**

**Architectural & Engineering Services**

Cost: $15,000

Includes the cost of designing the classroom layout, preparing architectural drawings, and ensuring compliance with local regulations.

**Permits and Local Authority Fees**

Cost: $5,000

Includes permits for construction, building inspection fees, and other local fees.

**Total Design & Legal Fees: $20,000**

4. **Transportation and Logistics**

**Transportation of Materials to Site**

Cost: $10,000

Includes transportation of cement, blocks, roofing materials, and other bulk items from urban centers to the rural school site.

**Local Transportation for Labor and Equipment**

Cost: $5,000

Includes transporting workers and equipment (scaffolding, tools) to and from the construction site.

**Total Transportation: $15,000**

5. **Miscellaneous Costs**

**Safety Equipment for Workers**

Cost: $2,000

Includes helmets, gloves, boots, and high-visibility vests for workers.

**Project Management & Overhead**

Cost: $3,000

Includes office supplies, communication, and other administrative costs.

**Total Miscellaneous Costs: $5,000**

**Final Total Breakdown**

| **Cost Category** | **Amount (USD)** |
| --- | --- |
| Site Preparation & Excavation | $60,000 |
| Building Materials | $175,000 |
| Labor Costs | $55,000 |
| Utilities & Infrastructure | $25,000 |
| Classroom Furniture | $50,000 |
| Architectural & Engineering Services | $15,000 |
| Permits & Local Fees | $5,000 |
| Transportation & Logistics | $15,000 |
| Miscellaneous Costs | $5,000 |
| Total | $405,000 |

**Key Notes:**

* The estimated costs are based on local market conditions in rural Ethiopia and may vary depending on material availability and transportation challenges.
* Labor costs assume the use of local workers, with some specialized labor brought in for tasks such as electrical and plumbing work.
* The budget includes a contingency fund within certain categories to account for unexpected changes in material costs or labor delays.
* All classroom materials and furniture are assumed to be locally sourced, with minimal import costs.
* This more granular breakdown helps ensure transparency and clarity in terms of project planning, while also aligning with the goal of building a sustainable and functional learning environment for the students and adult learners of Makod Primary School.