

## **ANNEX M**

**BILL OF QUANTITIES  
ON  
BUILDINGS AND STRUCTURES**

*PREPARED BY*

**FELIX DZUBEY AND COMPANY**  
*(VALUATION SURVEYORS, ESTATE MANAGERS  
AND LANDED PROPERTY CONSULTANTS)*

**P. O. BOX OS 1073,  
X'BORG - OSU,  
ACCRA**

**TEL: (021) 682873/4  
MAY, 2004**

**PRINCIPAL PARTNER: FELIX DZUBEY, B.Sc. (LAND ECON.) F.Gh.I.S.**

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## REPLACEMENT COST

Our assessment of recommended compensations is guided by the definition of compensation by the International Finance Corporation. That is to say compensation for houses and structures is the total current market cost of materials to build its replacement of the original area and quality similar to or better than those of the affected structure or to repair a partially affected structure plus site. Costs as cost of transporting materials to the construction site, cost of labour and contractor's fees. It includes also cost of registration and transfer taxes.

In determining the replacement cost for purposes of paying compensation, depreciation of the asset and value of the salvage material are not taken into account nor the value of the benefits to be derived from the project are not considered.

We were guided further by the standard adopted by Newmont Ghana Gold Limited i.e. in assessing the quantum of compensation or replacement cost for residential buildings the rate for sandcrete block rendered or plastered i.e. \$81 per m<sup>2</sup> is applied to the gross external measurements of residential buildings irrespective of the category or type of material used in construction. This gives a boost in the quantum of compensation payable to the owners of buildings of inferior materials.

### **EXAMPLES:**

This is illustrated by the examples 1, 2 and 3.

#### 1. SUNDRIED BRICKS WITH CEMENT PLASTER/RENDERING

1. Sundried bricks with cement plaster using the rate applicable to this category or type of structure.

##### a) Internal measurements

<u>Description</u>	<u>Dimension (m)</u>	<u>Area/m<sup>2</sup></u>
Bedroom	4.25 x 3.40	14.45
Bedroom	4.10 x 3.40	13.94

### VALUATION

Area - 28.39m<sup>2</sup>  
Rate = \$76 per m<sup>2</sup>  
= \$76 x 28.39  
= **\$2,157.64**

- b) Gross external measurements using the sandcrete block plastered or rendered rate.

#### Gross External Measurements

	<u>Area/m<sup>2</sup></u>
8.95 x 3.65	32.67
Area - 32.67m <sup>2</sup>	
Rate - \$81	
= \$81 x 32.67	
= <b>\$2,646.27</b>	

∴ Quantum of compensation  
= \$2,646.27

2. **WATTLE AND DAUB RAMMED, EARTH FLOOR, BATTENED DOORS AND THATCH ROOF**

- a) Wattle and daub building with rammed earth floor, battened doors and thatch roof using the rate applicable to the category or building/structure type.

**Internal measurements**

<u>Description</u>	<u>Dimension</u>	<u>Area/m<sup>2</sup></u>
Bedroom	3.5 x 2.43	8.51
Bedroom	3.40 x 2.43	8.26

**VALUATION**

Area - 16.77m  
Rate - \$27 per m<sup>2</sup>  
= \$27 x 16.77  
= \$452.79

- b) Gross external measurement using the sandcrete block rendered or plastered rate.

**Gross External Measurements**

	<u>Area/m<sup>2</sup></u>
7.35 x 2.85	20.95

Area = 20.95m<sup>2</sup>  
Rate = \$81  
= \$81 x 20.95  
= \$1,696.95

∴ Quantum of compensation  
= \$1,696.95

3. **WATTLE AND DAUB, RAMMED EARTH, NO DOORS AND THATCH ROOF**

- a) Wattle and daub building with rammed earth no doors and thatch roof using the rate applicable to the category or building/structure type.

**Internal measurements**

<u>Description</u>	<u>Dimension</u>	<u>Area/m<sup>2</sup></u>
Bedroom	3.00 x 2.33	6.99
Bedroom	2.95 x 2.33	6.87

**VALUATION**

Area - 13.86m<sup>2</sup>  
Rate - \$20 per m<sup>2</sup>  
= \$22 x 13.86  
= \$277.2

- b) Gross external measurement using the sandcrete block rendered or plastered rate.

**Gross External Measurements**

	<u>Area/m<sup>2</sup></u>
6.19 x 2.50	15.48

Area = 15.48m<sup>2</sup>  
 Rate = \$81  
 = \$81 x 15.48  
 = \$1,253.88

∴ Quantum of compensation  
 = **\$1,253.88**

To take care of the different structures and buildings in the mine foot print, we determine the following rates and categories based primarily on the materials used

**REPLACEMENT RATES FOR STRUCTURES**

STRUCTURE TYPE	RATES (USD/ M <sup>2</sup> )
Sandcrete block-rendered and plastered	\$81
Sun-dried brick with cement plaster	\$76
Landcrete with cement plaster	\$71
Swish (Atakpame) or mud brick with cement	\$67
Wattle and daub – sand screed floor plastered, corrugated iron sheet (C.I.S) roof	\$40
Wattle and daub – screed floor, rendered, battened doors, corrugated iron sheet (C.I.S) roof.	\$36
Wattle and daub – rammed earth floor, rendered, battened doors corrugated iron sheet (C.I.S) roof.	\$32 - \$35
Wattle and daub – rammed earth floor, battened doors, thatch roof.	\$27
Wattle and daub – rammed earth floor, raffia doors, thatch roof	\$22
Wattle and daub – rammed earth floor, no doors, thatch roof.	\$18 - \$20
Wattle and daub – to roofing level, but with no roof.	\$13

Kitchen - wattle and daub, rammed earth floor.	\$18 - \$20
Shed with pillars and C.I.S. roof	\$18
Stakes with C.I.S. roof	\$13
Concrete pavement	\$9
Raffia-clad structure with rammed earth	\$5
Wattle-framework only	\$5 - \$7
Shed/bath cubicle (detached) – wattle and daub without screed.	\$4
Shed-stakes with thatch roof.	\$4
Kitchen – raffia palm	\$3
Bath – unroofed with wood cladding	\$2
Stakes/sticks only	\$2
Kiosk	\$50 - \$57

Items considered in arriving at the above categories and rates are shown in the bill of quantities here to attached and marked appendix 'A'. All rates are inclusive of materials, labour and incidental expenses.

APPENDIX "A"

1 BILL OF QUANTITIES FOR THE  
CONSTRUCTION OF SANDCRETE  
BLOCK - BLOCK RENDERED AND  
PLASTERED - AREA 32 M<sup>2</sup>

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>UNIT</u>	<u>AMOUNT</u>
	<u>Excavation</u>			£
A.	Excavation to a depth of 0.5 <sup>M</sup> deep commencing from ground level	2	M <sup>3</sup>	64,000
	<u>Blockwork</u>			
B.	100mm thick sandcrete block wall in cement and sand (1:6)	30	M <sup>2</sup>	4,800,000
	<u>Concrete work</u>			
C.	1:3:6 - 38mm aggregate reinforced concrete in lintel	0.5	M <sup>3</sup>	480,000
D.	10mm thick rod in lintel	12	Kg	768,000
E.	Formwork to side & sofit of lintel	8	M <sup>2</sup>	768,000
	<u>Roofing</u>			
F.	C.I.S. fixed to wooden roof members	12	M <sup>2</sup>	3,840,000
	<u>Carpentry</u>			
G.	50 x 100mm thick timber for roofing (purlins and rafters)	32	1M	1,024,000
H.	Allow for a provisional sum of (¢70,000) for doors, door frame and hinges			
	<u>Plastering</u>			
I.	100mm thick cement and sand plaster and rendering	70	M <sup>2</sup>	4,480,000
	<u>Screed</u>			
J.	12mm thick cement and sand screed (1:6)	10	M <sup>2</sup>	1,960,000
	<u>Painting</u>			
K.	Prepare and apply two coats of emulsion paint in walls	60	M <sup>2</sup>	3,840,000
	Add preliminary			
	<b>Total cost</b>			<u>2,081,600</u>
	<b>Unit cost/M<sup>2</sup></b>			<u>24,105,600</u>
				753,300
				i.e. \$ 81



2 **BILL OF QUANTITIES FOR THE  
CONSTRUCTION OF SUNDRIED  
BRICK - WITH CEMENT  
PLASTER - AREA 32 M<sup>2</sup>**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>UNIT</u>	<u>AMOUNT</u>
	<b><u>Excavation</u></b>			₡
A.	Excavate pit for foundation trench not exceeding 1 metric	5	M <sup>3</sup>	320,000
	<b><u>Brick (Sundried Brick)</u></b>			
B.	75mm thick sundried bricks in cement and sand (1:4) mortar	32	M <sup>2</sup>	3,072,000
	<b><u>Roofing</u></b>			
C.	Corrugated iron sheet fixed to wooden roof members	13	M <sup>2</sup>	4,953,600
	<b><u>Carpentry</u></b>			
D.	50 x 75mm thick timber for roofing (purlin and rafter)	30	no.	768,000
	<b><u>Plastering and Finishing</u></b>			
E.	10mm thick cement and sand plaster and rendering	75	M <sup>2</sup>	4,800,000
	<b><u>Screed</u></b>			
F.	12mm thick cement and sand screed (1:6)			
	<b><u>Painting</u></b>			
	Prepare and apply two coats of paint on:			
G.	Walls	75	M <sup>2</sup>	4,800,000
	<b><u>Doors and Windows</u></b>			
	Allow for a provisional sum of (¢100,000) for door/frame and window frame	item		3,200,000
	Add preliminary			<u>704,000</u>
	<b>Total cost</b>			<b><u>22,617,600</u></b>
	<b>Unit cost/M<sup>2</sup></b>			<b><u>706,800</u></b>
				i.e. \$ 76

3

**BILL OF QUANTITIES FOR THE  
CONSTRUCTION OF LANDCRETE -  
WITH CEMENT PLASTER  
DESCRIPTION**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>UNIT</u>	<u>RATE</u> ₡	<u>AMOUNT</u> ₡
	<b><u>Excavation</u></b>				
A.	Allow for a provisional sum of (₡320,000) for excavation				320,000
	<b><u>Landcrete blockwall</u></b>				
B.	100mm thick landcrete blockwall in cement and sand (1:6) mortar	33	M <sup>2</sup>		2,640,000
	<b><u>Roofing</u></b>				
C.	Corrugated iron sheet fixed to wooden roof member	12	M <sup>2</sup>		3,840,000
	<b><u>Carpentry</u></b>				
D.	50 x 75mm thick timber for roofing members (purlins)	31	M		793,600
	<b><u>Plastering and finishing</u></b>				
E.	10mm thick cement and sand plaster and rendering	72	M <sup>2</sup>	64,000	4,608,000
	<b><u>Screed</u></b>				
F.	12mm thick cement and sand screed (1:6)	7	M <sup>2</sup>	96,000	672,000
	<b><u>Door/Window</u></b>				
G.	Allow for a provisional sum of (₡80,000) for door/frame and window frame	item			2,560,000
	<b><u>Painting</u></b>				
	Prepare and apply two coats of paint on:				
H.	Walls	72	M <sup>2</sup>	64,000	4,608,000
	Add preliminary				<u>1,090,600</u>
	<b>Total cost</b>				<b><u>21,132,200</u></b>
	<b>Total Area of Building</b>				<b>32 M<sup>2</sup></b>
	<b>Unit Rate/M<sup>2</sup></b>				<b>660,381</b>
					<b>i.e. \$ 71</b>

4 **BILL OF QUANTITIES FOR THE  
CONSTRUCTION OF SWISH  
(ATAKPAME) OR MUD BRICK - WITH  
CEMENT PLASTER**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>UNIT</u>	<u>RATE</u> ₡	<u>AMOUNT</u> ₡
<b><u>Excavation</u></b>					
A.	Allow for a provisional sum of (₡360,000) for excavation				360,000
<b><u>Swish (Atakpame) or Mud Brick</u></b>					
B.	100mm thick swish or mud brick wall in cement and sand.	30	M <sup>2</sup>	66,000	1,980,000
<b><u>Roofing</u></b>					
C.	Corrugated iron sheet fixed to wooden roof member	14	M <sup>2</sup>	300,000	4,200,000
<b><u>Carpentry</u></b>					
D.	50 x 75mm thick timber for roofing member	30	M	24,000	720,000
<b><u>Plastering and finishing</u></b>					
E.	100mm thick cement and sand plaster and rendering	71	M <sup>2</sup>	80,000	5,680,000
F.	12mm thick cement and sand screed (1:6)				
<b><u>Doors and Windows</u></b>					
G.	Allow for provisional sum of ₡950,000 for door frame and window frame				950,000
H.	Prepare and apply two coats of paint on: Walls	71	M <sup>2</sup>	60,000	4,260,000
	Add preliminary				<u>543,000</u>
	<b>Total cost</b>				<b><u>18,693,000</u></b>
	<b>Total Area of Building</b>				<b>30 M<sup>2</sup></b>
	<b>Unit rate/M<sup>2</sup></b>				<b><u>623,100</u></b> i.e. \$ 67

5 **BILL FOR WATTLE AND DAUB -  
SAND SCREED FLOOR, PLASTERED,  
CORRUGATED IRON SHEET (CIS)**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>UNIT</u>	<u>RATE</u>	<u>AMOUNT</u>
	<b><u>ROOF</u></b>				
	<b><u>Excavation</u></b>			<u>₱</u>	<u>₱</u>
A.	Allow for provisional sum of ₱160,000 for excavation.	Item			160,000
	<b><u>Wattle and Daub</u></b>				
B.	Allow for provisional sum of ₱384,000 for supply and caruhunting of wattle and Daub (mud,padon front and timber post)	Item			384,000
	<b><u>Roofing</u></b>				
C.	Corrugated iron sheet (CIS) roof to wooden roof member	6	M <sup>2</sup>	160,000	960,000
	<b><u>Plastering and finishing</u></b>				
D.	10mm thick cement and sand plaster and rendering	54	M <sup>2</sup>	32,000	1,728,000
E.	12mm thick cement and sand screed (1:6)	4	M <sup>2</sup>	48,000	192,000
	<b><u>Door/Window</u></b>				
F.	Allow for a provisional sum of (₱800,000) for door and windows and frame	Item			800,000
	<b><u>Painting</u></b>				
G.	Prepare and apply two coats of paint on: Walls	54	M <sup>2</sup>	20,000	1,080,000
	Add preliminary				<u>648,000</u>
	<b>Total cost</b>				<b><u>5,952,000</u></b>
	<b>Total Area of Building</b>				<b>16 M<sup>2</sup></b>
	<b>Unit cost/M<sup>2</sup></b>				<b>372,000</b>
					<b>i.e. \$ 40</b>

6 **BILL OF QUANTITIES FOR  
CONSTRUCTION OF WATTLE AND  
DAUB: SCREED FLOOR, RENDERED,  
BATTENED DOORS, CIS ROOF**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>UNIT</u>	<u>RATE</u>	<u>AMOUNT</u>
				<u>₱</u>	<u>₱</u>
	<b><u>Excavation</u></b>				
A.	Allow for provisional sum of ₱160,000 for excavation	Item			160,000
	<b><u>Wattle and Daub</u></b>				
B.	Allow for provisional sum of ₱350,000 for supply of construction of wattle and daub				350,000
	<b><u>Roofing</u></b>				
C.	Corrugated iron sheet (CIS) roof to wooden roof members	5	M <sup>2</sup>	160,000	800,000
	<b><u>Plastering and finishing</u></b>				
D.	10mm thick cement and sand (1:6) plaster and rendering	45	M <sup>2</sup>	32,000	1,440,000
	<b><u>Screed</u></b>				
E.	12mm thick screed floor cement and clay (1:6)	3.5	M <sup>2</sup>	48,000	168,000
	<b><u>Battern door/Window</u></b>				
F.	Allow for a provisional sum of (₱750,000) for battern door window	Item			750,000
	<b><u>Painting</u></b>				
	Prepare and apply two coats of paint on:				
G.	Walls	45	M <sup>2</sup>	32,000	1,440,000
	Add preliminary				<u>248,000</u>
	<b>Total cost</b>				<b><u>5,356,000</u></b>
	<b>Total Area of Building</b>				<b>16 M<sup>2</sup></b>
	<b>Unit cost/M<sup>2</sup></b>				<b>334,750</b>
					<b>i.e. \$ 36</b>

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**BILL OF QUANTITIES FOR  
CONSTRUCTION OF WATTLE AND  
DAUB: RAMMED EARTH FLOOR,  
RENDERED, BATTENED DOORS**

<b><u>CIS ROOF</u></b>					
<b><u>ITEM</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>QTY</u></b>	<b><u>UNIT</u></b>	<b><u>RATE</u></b>	<b><u>AMOUNT</u></b>
	<b><u>Excavation</u></b>			<b>₱</b>	<b>₱</b>
A.	Allow for a provisional sum of (₱160,000) for excavation	Item			160,000
	<b><u>Wattle and Daub</u></b>				
B.	Allow for provisional sum of (₱564,800) for supply and constructing of wattle and daub	Item			564,800
	<b><u>Roofing</u></b>				
C.	Corrugated iron sheet (CIS) roof to wooden members	5	M <sup>2</sup>	160,000	800,000
	<b><u>Plaster work and finishing</u></b>				
D.	10mm thick cement and sand (1:6) plaster and rendering	32	M <sup>2</sup>	32,000	1,040,000
	<b><u>Rammed floor</u></b>				
E.	Allow for a provisional sum of (₱320,000) for ramming floor	Item			320,000
	<b><u>Batten door/Window</u></b>				
F.	Allow for a provisional sum of (₱564,000) for batten door, window	Item			564,000
	<b><u>Painting</u></b>				
	Prepare and apply two coats of paint on:				
G.	Walls	32	M <sup>2</sup>	32,000	1,040,000
	Add preliminary				<u>272,800</u>
	<b>Total cost</b>				<b><u>4,761,600</u></b>
	<b>Total Area</b>				<b>16 M<sup>2</sup></b>
	<b>Unit rate/M<sup>2</sup></b>				<b>297,600 i.e. \$ 32</b>

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**BILL OF QUANTITIES FOR  
CONSTRUCTION OF WATTLE AND  
DAUB - RAMMED EARTH FLOOR  
BATTENED DOORS, THATCH**

<u>ITEM</u>	<u>FLOOR DESCRIPTION</u>	<u>QTY</u>	<u>UNIT</u>	<u>RATE</u> ₪	<u>AMOUNT</u> ₪
	<b><u>Excavation</u></b>				
A.	Allow for a provisional sum of (₪160,000) for excavation	Item			160,000
	<b><u>Wattle and Daub</u></b>				
B.	Allow for provisional sum of (₪560,000) for supply and constructing of wattle and daub (staking and pressing mud)	Item			560,000
	<b><u>Rammed floor</u></b>				
C.	Allow for a provisional sum of (₪480,000) for ramming floor	Item			480,000
	<b><u>Roofing</u></b>				
D.	Thatch roofing cover, arranged on top of each other by holding the thatch firm with rope to the timber members	26	M <sup>2</sup>	80,000	2,080,000
	<b><u>Batten door/Window</u></b>				
E.	Allow for a provisional sum of (₪640,000) for fixing batten doors and window frames	Item			640,000
	Add preliminary				<u>97,760</u>
	<b>Total cost</b>				<b><u>4,017,760</u></b>
	<b>Total Area of Building</b>				<b>16 M<sup>2</sup></b>
	<b>Unit rate/M<sup>2</sup></b>				<b>251,110</b>
					<b>i.e. \$ 27</b>

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**BILL OF QUANTITIES FOR  
WATTLE AND DAUB - RAMMED  
EARTH FLOOR, RAFFIA DOORS,**

<u>ITEM</u>	<u>THATCH ROOF DESCRIPTION</u>	<u>QTY</u>	<u>UNIT</u>	<u>RATE</u>	<u>AMOUNT</u>
				₱	₱
	<b><u>Excavation</u></b>				
A.	Allow for a provisional sum of (₱160,000) for excavation	Item			160,000
	<b><u>Wattle and Daub</u></b>				
B.	Allow for provisional sum of (₱560,000) for supply and constructing of wattle and daub (staking and pressing mud)	Item			560,000
	<b><u>Rammed floor</u></b>				
C.	Allow for a provisional sum of (₱480,000) for ramming earth floor	Item			480,000
	<b><u>Roofing</u></b>				
D.	Thatch roofing cover, arranged on top of each other by holding the thatch firm with rope to the timber members	22	M <sup>2</sup>	80,000	1,760,000
	<b><u>Raffia Palm Door</u></b>				
E.	Allow for a provisional sum of (₱240,000) for fixing raffia palm door.	Item			<u>240,000</u>
	Add preliminary				<u>73,600</u>
	<b>Total cost</b>				<b><u>3,273,600</u></b>
	<b>Total Area of Building</b>				<b>16 M<sup>2</sup></b>
	<b>Unit cost/M<sup>2</sup></b>				<b>204,600</b>
					<b>i.e. \$ 22</b>



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**BILL OF QUANTITIES FOR  
CONSTRUCTION OF WATTLE AND  
DAUB - RAMMED EARTH FLOOR,  
NO DOORS, THATCH ROOF**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>UNIT</u>	<u>RATE</u>	<u>AMOUNT</u>
	<b><u>Excavation</u></b>			₱	₱
A.	Allow for a provisional sum of (₱100,000) for excavation	Item			100,000
	<b><u>Wattle and Daub</u></b>				
B.	Allow for provisional sum of (₱300,000) for supply and constructing of wattle and daub (staking and pressing mud)	Item			300,000
	<b><u>Roofing</u></b>				
C.	Thatch roof covering, arrange on top of each other by rope to hold it firm to the timber members	20	M <sup>2</sup>	94,880	1,897,600
	<b><u>Rammed earth floor</u></b>				
D.	Allow for a provisional sum of (₱300,000) for ramming earth floor	Item			300,000
	Add preliminary				80,800
	<b>Total cost</b>				<b>2,678,400</b>
	<b>Total Area of Building</b>				<b>16 M<sup>2</sup></b>
	<b>Unit cost/M<sup>2</sup></b>				<b>167,400</b>
					<b>i.e. \$ 18</b>

11

**BILL OF QUANTITIES FOR  
CONSTRUCTION OF WATTLE AND  
DAUB: TO ROOFING LEVEL,  
BUT WITH NO ROOF**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>UNIT</u>	<u>RATE</u>	<u>AMOUNT</u>
	<b><u>Excavation</u></b>			<u>₱</u>	<u>₱</u>
A.	Allow for a provisional sum of (₱320,000) for excavation		Item		320,000
	<b><u>Wattle and Daub</u></b>				
B.	Allow for provisional sum of (₱640,000) for supply and constructing of wattle and daub (staking and pressing mud)		Item		640,000
	<b><u>Rammed earth floor</u></b>				
C.	Allow for a provisional sum of (₱320,000) for ramming earth floor		Item		320,000
	<b><u>Roofing timber members</u></b>				
D.	Allow for a provisional sum of (₱640,000) for supply and fixing of timber member		Item		640,000
	Add preliminary				<u>14,400</u>
	<b>Total cost</b>				<b><u>1,934,400</u></b>
	<b>Total Area of Building</b>				<b>16 M<sup>2</sup></b>
	<b>Unit cost/M<sup>2</sup></b>				<b>120,900</b>
					<b>i.e. \$ 13</b>

12

**BILL OF QUANTITIES FOR  
CONSTRUCTION OF KITCHEN -  
WATTLE AND DAUB,  
RAMMED EARTH FLOOR**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>UNIT</u>	<u>RATE</u>	<u>AMOUNT</u>
	<b><u>Excavation</u></b>			₪	₪
A.	Allow for a provisional sum of (₪320,000) for excavation	Item			320,000
	<b><u>Wattle and Daub</u></b>				
B.	Allow for provisional sum of (₪720,000) for supply and constructing of wattle and daub (staking and pressing mud)	Item			720,000
	<b><u>Rammed earth floor</u></b>				
C.	Allow for a provisional sum of (₪640,000) for ramming earth floor	Item			640,000
	<b><u>Roofing timber members</u></b>				
	Allow for a provisional sum of (₪800,000) for supply and fixing of timber member for roofing and stands	Item			800,000
	Add preliminary				<u>198,400</u>
	<b>Total cost</b>				<b><u>2,678,400</u></b>
	<b>Total Area of Building</b>				<b>16 M<sup>2</sup></b>
	<b>Unit cost/M<sup>2</sup></b>				<b>167,400</b>
					<b>i.e. \$ 18</b>

13

**BILL OF QUANTITIES FOR**  
**SHED - WITH PILLARS**  
**AND CIS ROOF**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>UNIT</u>	<u>RATE</u>	<u>AMOUNT</u>
				₪	₪
<b><u>Excavation</u></b>					
A.	Allow for a provisional sum of (₪320,000) for excavation of holes	Item			320,000
<b><u>Carpentry</u></b>					
B.	50 x 75mm thick timber post	45	M <sup>2</sup>	11,200	504,000
<b><u>Roofing</u></b>					
C.	Corrugated iron sheet (CIS) roofing fixed to roofing members	4	M <sup>2</sup>	250,000	1,280,000
	Add preliminary				<u>574,400</u>
	<b>Total cost</b>				<b><u>2,678,400</u></b>
	<b>Total Area of Building</b>				<b>16 M<sup>2</sup></b>
	<b>Unit cost/M<sup>2</sup></b>				<b>167,400</b>
					<b>i.e. \$ 18</b>

14

**BILL OF QUANTITIES FOR  
CONSTRUCTION OF STAKES  
WITH CIS ROOF**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>UNIT</u>	<u>RATE</u>	<u>AMOUNT</u>
	<b><u>Excavation</u></b>			₱	₱
A.	Allow for a provisional sum of (₱175,500) for excavation	Item			175,500
	<b><u>Carpentry</u></b>				
B.	75mm thick diameter timber post for serve as framework	8	no.		384,000
	<b><u>Roofing</u></b>				
C.	Corrugated iron sheet (CIS) roofing fixed to timber	2.8	M <sup>2</sup>	480,000	1,344,000
	Add preliminary				<u>30,900</u>
	<b>Total cost</b>				<b><u>1,934,400</u></b>
	<b>Total Area of Building</b>				<b>16 M<sup>2</sup></b>
	<b>Unit cost/M<sup>2</sup></b>				<b>120,900</b>
					<b>i.e. \$ 13</b>

15

**BILL OF QUANTITIES FOR**  
**CONCRETE PAVEMENT**  
**DESCRIPTION**

<u>ITEM</u>		<u>QTY</u>	<u>UNIT</u>	<u>RATE</u> ₤	<u>AMOUNT</u> ₤
	<b><u>Excavation</u></b>				
A.	Excavate to ground 0.2m deep for placing of concrete slab (pavement)	5	M <sup>3</sup>	50,000	250,000
B.	1:4:8 - 38mm aggregate concrete pavement 100mm thick.	3	M <sup>3</sup>	170,000	510,000
	Add preliminary				<u>77,000</u>
	<b>Total cost</b>				<b><u>837,000</u></b>
	<b>Total Area of Building</b>				<b>10 M<sup>2</sup></b>
	<b>Unit cost/M<sup>2</sup></b>				<b>83,700</b>
					<b>i.e. \$ 9</b>

16

**BILL OF QUANTITIES FOR**  
**RAFFIA - CLAD STRUCTURE -**  
**WITH RAMMED EARTH**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>UNIT</u>	<u>RATE</u>	<u>AMOUNT</u>
	<b><u>Excavation</u></b>			₡	₡
A.	Excavate the area and make way for poles and for cladding	3.25	M <sup>3</sup>	20,000	65,000
	<b><u>Carpentry</u></b>				
B.	75mm thick diameter timber post to secure the framework	10	No.	20,000	200,000
C.	50mm thick wawa board 12" long as cladding material	10	No.	20,000	<u>200,000</u>
	<b>Total cost</b>				<b><u>465,000</u></b>
	<b>Total Area of Building</b>				<b>10 M<sup>2</sup></b>
	<b>Unit cost/M<sup>2</sup></b>				<b>46,500</b>
					<b>i.e. \$ 5</b>

17

**BILL OF QUANTITIES FOR  
WATTLE - FRAMEWORK ONLY**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>UNIT</u>	<u>RATE</u>	<u>AMOUNT</u>
	<b><u>Carpentry</u></b>			<u>₪</u>	<u>₪</u>
A.	75mm diameter timber post to serve as framework for wattle building	10	No.	60,000	600,000
	<b><u>Excavation</u></b>				
B.	Allow for provisional sum of ₪230,000 for excavation of holes for timber post	Item			230,000
	Add preliminary				<u>100,000</u>
	<b>Total cost</b>				<b><u>930,000</u></b>
	<b>Total Area of Building</b>				<b>20 M<sup>2</sup></b>
	<b>Unit cost/M<sup>2</sup></b>				<b>46,500</b>
					<b>i.e. \$5</b>



18

**BILL OF QUANTITIES FOR**  
**SHED/BATH CUBICLE (DETACHED)**  
**WATTLE AND DAUB**  
**WITHOUT SCREED**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>UNIT</u>	<u>RATE</u>	<u>AMOUNT</u>
	<b><u>Site Clearance</u></b>			₪	₪
A.	Prepare the area for the shed using the appropriate means	2.25	M <sup>2</sup>	16,000	36,000
	<b><u>Wattle and daub</u></b>				
B.	Cutting, watering, pressing and staking of clay for wattle mud (0.45m thick)	9	M <sup>2</sup>	12,000	108,000
	Add preliminary				<u>4,800</u>
	<b>Total cost</b>				<b><u>148,800</u></b>
	Total Area of Building				4 M <sup>2</sup>
	Unit cost/M <sup>2</sup>				37,200
					<b>i.e. \$4</b>

19

**BILL OF QUANTITIES FOR**  
**SHED - STAKES WITH THATCH**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>UNIT</u>	<u>RATE</u>	<u>AMOUNT</u>
	<b><u>Excavation</u></b>			₱	₱
A.	Allow for a provisional sum of (₱19,800) for excavation	Item			19,800
	<b><u>Carpentry</u></b>				
B.	75mm thick diameter timber post to serve as framework	5	No.	27,000	135,000
	<b><u>Thatch roof covering</u></b>				
C.	400mm thick fresh thatch well arranged on the timber element at a slop to drain water naturally.	4	M <sup>2</sup>	45,000	180,000
	<b>Total cost</b>				<b><u>334,800</u></b>
	<b>Total Area of Building</b>				<b>9 M<sup>2</sup></b>
	<b>Unit cost/M<sup>2</sup></b>				<b>37,200</b>
					<b>i.e. \$ 4</b>

20		<u>BILL OF QUANTITIES FOR</u>			
		<u>KITCHEN - PALM</u>			
<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>UNIT</u>	<u>RATE</u>	<u>AMOUNT</u>
		<u>£</u>			
	<u>Excavation</u>				
A.	Excavate for the area to be worked on up to 0.5m deep	4	M <sup>2</sup>	24,000	96,000
	<u>Raffia palm</u>				
B.	Fixed palm branches to the palm stakes and tie with rope	6	M <sup>2</sup>	24,000	144,000
	Add preliminary				<u>11,100</u>
	<b>Total cost</b>				<b><u>251,100</u></b>
	<b>Total Area of Building</b>				<b>9 M<sup>2</sup></b>
	<b>Unit cost/M<sup>2</sup></b>				<b>27,900</b>
					<b>i.e. \$ 3</b>

21

**BILL OF QUANTITIES FOR**  
**BATHROOM - UNROOFED**  
**WITH WOOD CLADDING**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>UNIT</u>	<u>RATE</u>	<u>AMOUNT</u>
	<b><u>Carpentry work</u></b>			₡	₡
A.	50mm thick wawa board nailed to the post as cladding element	4	M <sup>2</sup>	74,000	74,000
	<b>Total cost</b>				<b><u>74,000</u></b>
	<b>Total Area of Sticks</b>				<b>4 M<sup>2</sup></b>
	<b>Unit rate/M<sup>2</sup></b>				<b>18,500</b>
					<b>i.e. \$ 2</b>

22

BILL OF QUANTITIES FOR  
STAKES/STICKS ONLY

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>UNIT</u>	<u>RATE</u>	<u>AMOUNT</u>
	<u>Carpentry work</u>			₹	₹
A.	Stakes(bamboo sticks) well arranged and tied together	12	No.	1,550	18,600
	<b>Total cost</b>				<b><u>18,600</u></b>
	Unit rate/M <sup>2</sup>				18,600
					i.e. \$ 2

**BILL OF QUANTITIES FOR  
KIOSK**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>UNIT</u>	<u>RATE</u> ₪	<u>AMOUNT</u> ₪
<b><u>Excavation</u></b>					
A.	Allow for a provisional sum of ₪10,000	Item	sum		50,000
<b><u>Bricks (Sundried Brick)</u></b>					
B.	75mm thick sundried bricks in cement and sand (1:4) mortar	34	M <sup>2</sup>	15,000	510,000
<b><u>Platform</u></b>					
C.	100mm thick wooden platform arranged to carry the kiosk.	4	M <sup>2</sup>	70,000	1,120,000
<b><u>Carpentry</u></b>					
D.	50 x 75mm thick timber for roofing (Purlin and rafters)	15	M	8,000	120,000
<b><u>Roofing</u></b>					
E.	Corrugated iron sheet fixed to wooden roof members	13	M <sup>2</sup>	50,000	650,000
F.	Add preliminary				<u>201,500</u>
<b>Total cost</b>					<b><u>2,651,500</u></b>
<b>Area of kiosk</b>					<b>5 M<sup>2</sup></b>
<b>Unit cost/M<sup>2</sup></b>					<b>530,300</b>
					<b>i.e. \$57</b>