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MKUU – ROMBO

13/05/2010

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TO WHOM IT MAY CONCERNED,

Dear Sir/ Madam,

**REF: ROOFING REPLACEMENT OF ASBESTOES SHEETS WITH CORRUGATED
IRON SHEETS AT HURUMA DESIGNATED DISTRICT HOSPITAL**

Huruma Hospital is serving the population of Rombo District.
The head count population is 290,000. The number of inpatients and out patients attending treatment range from 50,000 to 60,000 per year.

The roofing of Huruma Hospital buildings was done by **ASBESTOES SHEETS**. There is no doubt and it is well known for quite a long time that the Asbestos particles coming out of the sheets can cause **LUNG DISEASE** including **lung cancer**. The staff and the patients who are staying in these buildings may develop lung disease at some stage of their lives. We require a kind and sympathetic help of some people in this world to change this precarious risk state of Huruma Hospital inhabitants developing lung disease.

Attached here with, is a detailed proposal write up, an Engineer calculated cost for the change, pathological effect of asbestos particles on human body and an advantage of rainwater harvest from the changed roofing.

This work will be done in phases.

The requested amount is Tshs. 219,036,515/=US\$ = 168,489.63

I anticipate very much on your consideration.

Sincerely yours,
DR. WILBROAD KYEJO (MD)
DOCTOR INCHARGE

TITLE:

ASBESTOES SHEETS
POSING HAZARDS
TO HURUMA HOSPITAL
INHABITANTS

DR. WILBROAD KYEJO (MD)
DOCTOR INCHARGE
HURUMA DESIGNATED
DISTRICT HOSPITAL

OBJECTIVE:

REPLACEMENT OF ASBESTOES
ROOFING AT HURUMA DESIGNATED
DISTRICT HOSPITAL

EXECUTIVE SUMMARY

For some years now, the Hospital Board of Trustees has been putting up the issue of changing the ASBESTOES ROOFING on the majority of buildings at Huruma Hospital. The challenging issue has been, always how to secure the funds for the change. The proposal write up gives the detailed background history of the hospital back to 1968.

There is a medical explanation on the dangers of asbestos particles to exposed individuals directly or indirectly. Rainwater harvest from the changed roofing will be beneficial to the Huruma Hospital. Most of Rombo District areas face water shortage especially during dry seasons. During this time the hospital gets water by rationing.

The detailed engineer calculation of the required different items and the total cost for the project is **TSH. 219,036,515/=**.

This cost excludes the funds for disposing the asbestos sheets which will be removed from the buildings. This will be part of our local contribution.
(TSH. 219,036,515/= = EURO.....US\$ = 168,489.63.)

HURUMA DESIGNATED DISTRICT HOSPITAL

1.0. INTRODUCTION:

Huruma Designated District Hospital started as a private hospital 42 years ago. Progressively the hospital expanded in terms of buildings and Health Services up to date.

The expansion of buildings depended solely on donors' graces. As years went on, the funds from donors have diminished. Donors changed both their priorities and policies, as a result the hospital development did not progress at the same pace as before.

One of the major hospital rehabilitation projects is to change the asbestos roofing to 80% of the hospital buildings.

HURUMA HOSPITAL BACKGROUND:

- 1.1. Huruma Hospital is a District Designated Hospital for **ROMBO DISTRICT** since 1972.
- 1.2. Has a bed capacity of 300 **existing beds** with Bed Occupancy ranging from – 80% - 95% depending on seasonal variation.
- 1.3. There are 243 staff employed, together with casual labourers the number goes up to **350**.
- 1.4. Annex to the hospital, there are two schools. One is for Pre-Service with 150 students and the other for Upgrading with 100 students.
- 1.5. The bedside instructions for students from both schools is done in this Hospital.
- 1.6. The Hospital deals with curative, preventive, promotive and rehabilitative medicine.
- 1.7. Is an outreach for Orthopaedic, Paediatric, and Ophthalmologist Doctors From KCMC.
- 1.8. Is Governed by the Board of Trustees meeting twice a year in May and November each year.

2. GEOGRAPHICAL LOCATION:

- 2.1. The Hospital is situated at Ibukoni village in Rombo District Kilimanjaro. Is 80Km. from Moshi Municipal and 100 meters from Rombo Council Headquarters.

- 2.1. On the Map of Tanzania, this is North East of Tanzania Mainland.
- 2.3. Huruma Hospital is serving **ROMBO DISTRICT**. The District is bordering the Republic of Kenya on the North and East, Moshi Rural District on the South, Hai District on West side and Monduli District lies on the North West side.
- 2.4. Rombo District is lying on the slope of Mount Kilimanjaro. It covers 900Sq.Km.
- 2.5. Land use is 44,114 hectares for cultivation, 38,194 hectares as a forest area and 16,692 hectares for livestock.
- 2.6. Mean temperature ranges from 18°C to 20°C with rainfall range from 500mm to 1600mm.
- 2.7. Road network covers 446 reliable us throughout the year. Mean while there is a construction of tarmac road from Marangu to Tarakea.
- 2.8. The District population for the year 2008 is 293,090 head count. The growth rate is 1.1%. There are 5 divisions, 20 wards and 60 registered villages. The area is densely populated. The main occupation is mixed farming, coffee as a cash crop. For food they grow bananas, maize, beans, potatoes, groundnuts, fruits and vegetables.
- 2.9. There are **156** Primary Schools and **46** Secondary Schools.

3. **CATCHMENT AREA:**

- 3.1. Huruma acts as a referral Hospital for 45 dispensaries 5 Health Centres one Voluntary Agency Hospital within Rombo District.
- 3.2. Outside Rombo, patients come from Moshi Rural, and Monduli District.
- 3.3. Huruma Hospital is 30 Km from Kenya by Tarakea road. Patient from Kenya are received from Loitokitok, Massaini, Chumvini and Taveta.
- 3.4. Huruma sends complicated cases needing further Management to KCMC Consultant Hospital.

4. **MANAGEMENT:**

- 4.1.0. There is a Board of Trustees meeting twice per year to review the Hospital activities.
 - 4.1.1. In the Board, there are 6 members coming from the Roman Catholic Church. One of them is a Chairman for the Board.
 - 4.1.2. There are 4 members coming from the central and Local Government.
 - 4.1.3. In addition to the 10 members there are normally opted members invited to reinforce the inputs/decisions and 'Brain Storming'.
- 4.2.0. There is a Hospital Management Team (HMT) which meets at the interval of 3 months. The Doctor In-charge is a Chairperson, other members are:-
 - 4.2.1. Departmental In-charges in the Hospital are all members of (HMT).
 - 4.2.2. Tutors of the two Schools are:- Members of HMT
 - 4.2.3. Other Members are, Matron, Hospital Secretary, Accountant and Hospital Chaplain.
- 4.3.0. There is a Hospital Management Committee (HMC) to check the day today running of the hospital, this meets monthly to review activities.
 - 4.3.1. Doctor In-charge is a chairperson of the committee.
 - 4.3.2. Matron or a representative from the Matron's office.
 - 4.3.3. Hospital Secretary and the Hospital Accountant are members of the committee.
 - 4.3.4. Opted members are School Tutors when the need arises.

5.0. HISTORICAL DEVELOPMENT OF HURUMA HOSPITAL

- 5.1. In 1962, the idea to have a hospital in Rombo District was conceived by Religious members of Roman Catholic sect.
- 5.2. In 1964, the early siting and planning of the Hospital was done.
- 5.3. In 1968, it was completed as a lonely private Hospital in Rombo District.
- 5.4. In 1970, Huruma Hospital was officially opened by the late President of Tanzania Mwalimu Julius Kambarage Nyerere. And blessed by the late Right Rev. Bishop Joseph Sipendi of Moshi Diocese.
- 5.5. In 1972, the Hospital was declared '**Huruma District Designated Hospital**' (HDDH) for Rombo District.
- 5.6. In 2001, during Health Sectoral reform/Decentralization the Hospital became a Council Designated Hospital (CDH).

6.0. BULDINGS:

Buildings were done in phases, depending on the **availability of funds**.
The major donor for the buildings was Miserrior organization from German.
The organization now has changed its policy.

6.1. Phase 1 of the Hospital consisted of:-

- Maternity ward
- Antenatal and Postnatal ward
- Male Medical ward
- Out Patient Department
- Kitchen, Laundry, stores, workshop and residential Houses were built.

6.2. Phase 2. Consisted of Major Operating Theatre, Paediatric ward, Chaplaincy, Surgical wards and private wards for sisters.

6.3. Phase 3. Hostel for foreign students, private ward for Priests and a small chapel annex to Priests private ward.

7.0. FUNDING

The agreement to utilize Huruma Hospital as a District Designated Hospital was signed and implemented between two parties.

- 7.1. The **MOHSW** was to provide **recurrent expenditures** and minor repairs. This included salaries, Medicine, food, utility costs and painting buildings.
- 7.2. The **owner** of the Hospital is supposed to fund **Capital expenditures** like buildings, vehicles and machines like generator, washing machine, etc.

- 7.3. The owner of the Hospital solicited donors in 1980 – 1988 to complete Phase 2 which was the major undertaking.
- 7.4. After **Phase 2** there has been very minimal development due to the donor changing their policy.
- 7.5. Cost sharing policy has changed the mode of funding. There is National Health Insurance Fund, Community Health Insurance and National social Security Benefits for treatment of our staff. Patients not in any of the above has to pay directly from their own sources.
- 7.6. The impact to Huruma Hospital as regards to diminished donation is lack of or stagnant Capital Development of the Infrastructure.
- 7.7. The funds are Audited by the Government recognized Auditor.

8.0. MAJOR REHABILITATION PROGRAMME

Huruma Hospital was roofed by **ASBESTOES** which will bring Health hazards to its users. It is said to cause Lung cancer ‘Mesothelioma of the Pleura’. The other structures are old and worn out. In order to keep the acceptable standards of the hospital and avoid disasters. The following has to be undertaken, i.e.

- 8.1. There is a need to change the roofed building of Huruma Hospital and staff residence houses.
- 8.2. During the course of changing there will be damage to woodwork, ceiling, wiring and painting. This will cost TSH. 219.5m. Refer to Appendix (i)

The Asbestos sheets replacement will be done in phases, in order to give room for shifting Health activities accordingly.

<u>Phase I:</u> St. Francis ward will cost Tsh.	41,759,000.00
<u>Phase II:</u> Existing O.P.D Block and O.P.D toilet block will cost Tsh.	29,055,160.00
<u>Phase III:</u> Maternity ward and Administrative block will cost Tsh.	24,059,470.00
<u>Phase IV:</u> St. Aloyce ward, and Sisters ward will cost Tsh.	24,515,115.00
<u>Phase V:</u> St. Joseph ward, Psychiatric ward Student Hostel will cost	20,331,955.00
<u>Phase VI:</u> Nyerere ward, Kitchen and Theatre will cost Tsh.	30,340,090.00
<u>Phase VII:</u> Sisters House I and II will cost Tsh.	17,727,860.00
<u>Phase VIII:</u> DMO’s Office and pharmacy will cost	14,747,865.00
TOTAL	<u>202,536,515.00</u>

Provide provisional sum for destructed Electricity and Timber..... 16,500,000.00
Grand Total **219,036,515.00**

PROTECTION TO CRAFTS MEN AND CARPENTERS
REMOVING ASBESTOES SHEETS

The workers involved in removing the asbestoes roofing will put on protective gears to avoid self contamination. Such protective gears will include: hats, masks, goggles, utility gloves and overalls. All these will be kept on one site to avoid their homes' contaminations. They will change their clothing on the job site.

Appendix i
BILL OF QUANTITY FOR PROPOSED RENOVATION OF HURUMA DDH

ITEM	DESCRIPTION	QTY	UNT	RATE	AMOUNT TSHS
	ELEMENT NO.1 ROOF COVERINGS				
A	EXISTING O.P.D BLOCK				
1	28 Gauge type corrugated Iron roofing Sheets as manufactured by the ALUCO Division of Aluminium Africa Ltd., P.O. Box 9293 Dar es Salaam or other equal and approved by the responsible Engineer laid with at least one and a half corrugations side laps and	502.8	M ²	18,000.00	9,050,400.00
2	28 gauge Ridge capping C. iron sheeting of size to be directed by responsible Engineer.	1250	M	8,000.00	10,000,000.00
3	Supply and fix ceiling board as per manufacturer and approved by responsible engineer	400	M ²	7,000.00	2,800,000.00
4	Provide provisional sum to cover for removal deteriorated asbestoes covering material and cart away from site.	502.8	M ²	3,000.00	1,508,400.00
5	Supply and apply three coats emulsion paint to new ceiling surface	400	M ²	7,500.00	3,000,000.00
	SUB TOTAL				26,358,800.00
B	EXISTING O.P.D TOILET BLOCK				
1	Ditto	78	M ²	18,000.00	1,404,000.00
2	Ditto	35	M	8,000.00	280,000.00
3	Supply and fix ceiling boards as per manufacturer and approved by responsible engineer	53.68	M ²	7,000.00	375,760.00
4	Provide provisional sum to cover for removal deteriorated asbestoes covering material and cart away from site.	78	M ²	3,000.00	234,000.00

5	Supply and apply three coats emulsion paint to new ceiling surface.	53.68	M ²	7,500.00	402,600.00
	SUB TOTAL				2,696,360.00
C	PHAMACY BLOCK				
1	28 Gauge type corrugated Iron roofing sheets as manufactured by the ALUCO Division of Aluminium Africa Ltd, P.O Box 9293 Dar es Salaam or other equal and approved by the responsible Engineer laid with at least one a half corrugations side laps and	236.3	M ²	18,000.00	4,253,400.00
2	28 gauge Ridge capping C. iron sheeting of size to be directed by responsible Engineer	85	M	8,000.00	680,000.00
3	Supply and fix ceiling boards as per manufacturer and approved by responsible engineer	179.1	M ²	7,000.00	1,253,700.00
4	Provide provisional sum to cover for removal deteriorated asbestoes covering material and cartaway from site.	236.3	M ²	3,000.00	708,900.00
5	Supply and threecoats emulsion paint to new ceiling surface.	179.1	M ²	7,500.00	1,343,250.00
	SUB TOTAL				8,239,250.00
D	DMO OFFICE				
1	28 Gauge type corrugated Iron roofing sheets as manufactured by the ALUCO Division of Aluminium Africa Ltd, P.O Box 9293 Dar es Salaam or other equal and approved by the responsible Engineer laid with at least one and a half corrugations side laps.	176.6	M ²	18,000.00	3,178,800.00
2	28 gauge Ridge capping C. iron sheeting of size to be directed by responsible Engineer.	78	M	8,000.00	624,000.00
3	Supply and fix ceiling boards as per manufacture and approved by responsible engineer.	150.07	M ²	7,000.00	1,050,490.00
4	Provide provisional sum to cover for removal deteriorated asbestoes covering material and cartaway from site	176.6	M ²	3,000.00	529,800.00
5	Supply and apply threecoats emulsion paint to new ceiling surface	150.07	M ²	7,500.00	1,125,525.00
	SUB TOTAL				6,508,615.00
E	THEATRE BLOCK				
	28 Gauge type corrugated Iron roofing				

1	sheets as manufactured by the ALUCO Division of Aluminium Africa Ltd, P.O Box 9293 Dar es Salaam or other equal and approved by the responsible Engineer Laid with at least one and a half corrugations side laps	370.2	M ²	18,000.00	6,663,600.00
2	Supply and fix ceiling boards as per manufacturer and approved by responsible engineer	301.9	M ²	7,000.00	2,113,300.00
3	Provide provisional sum to cover for removal deteriorated asbestoes covering material and cartaway from site	370.2	M ²	3,000.00	1,110,600.00
4	Supply and apply threecoats emulsion paint to new ceiling surface.	301.9	M ²	7,500.00	2,264,250.00
	SUB TOTAL				12,151,750.00
F	STUDENT HOSTEL				
1	28 Gauge type corrugated Iron roofing sheets as manufactured by the ALUCO Division of Aluminium Africa Ltd, P.O Box 9293 Dar es Salaam or other equal and approved by the responsible Engineer laid with at least one and a half corrugations side laps.	149,55	M ²	18,000.00	2,691,900.00
2	Supply and fix ceiling boards as per manufacturer and approved by responsible engineer	113.23	M ²	7,000.00	792,610.00
3	Provide provisional sum to cover for removal deteriorated asbestoes covering material and cartaway from site.	149.55	M ²	3,000.00	448,650.00
4	Supply and apply threecoats emulsion paint to new ceiling surface	113.23	M ²	7,500.00	849,225.00
	SUB TOTAL				4,782,385.00
G	KITCHEN				
1	28 Gauge type corrugated Iron roofing sheets as manufactured by the ALUCO Division of Aluminium African Ltd, P.O Box 9293 Dar es Salaam or other equal and approved by the responsible Engineer laid with at least one and half corrugations side laps.	192.2	M ²	18,000.00	3,459,600.00
2	Supply and fix ceiling boards as per manufacturer and approved by responsible engineer.	136.8	M ²	7,000.00	957,600.00
	Provide provisional sum to cover for removal deteriorated asbestoes covering				

3	material and cartaway from site	192.2	M ²	3,000.00	576,600.00
4	Supply and apply threecoats emulsion paint to new ceiling surface.	136.8	M ²	7,500.00	1,026,000.00
	SUB TOTAL				6,019,800.00
H	SISTER'S HOUSE 1				
1	28 Gauge type corrugated Iron roofing sheets as manufactured by the ALUCO Division of Aluminium Africa Ltd, P.O Box 9293 Dar es Salaam or other equal and approved by the responsible Engineer laid with at least one and a half corrugations side laps.	184.8	M ²	18,000.00	3,326,400.00
2	28 gauge Ridge C. iron sheeting of size to be directed by responsible Engineer.	48	M	8,000.00	384,000.00
3	Supply and fix ceiling boards as per manufacturer and approved by responsible engineer	140.76	M ²	7,000.00	985,320.00
4	Provide provisional sum to cover for removal deteriorated asbestoes covering material and cartaway from site.	184.8	M ²	3,000.00	554,400.00
5	Supply and apply threecoats emulsion paint to new ceiling surface.	140.76	M ²	7,500.00	1,055,700.00
	SUB TOTAL				6,305,820.00
1	SISTER'S HOUSE 11				
1	28 Gauge type corrugated Iron roofing sheets as manufactured by the ALUCO Division of Aluminium African Ltd, P.O Box 9294 Dar es Salaam or other equal and approved by the responsible Engineer laid with at least one and a half corrugations side laps.	331.84	M ²	18,000.00	5,973,120.00
2	28 gauge Ridge capping C. iron sheeting of size to be directed by responsible Engineer.	76	M	8,000.00	608,000.00
3	Supply and fix ceiling boards as per manufacturer and approved by responsible engineer	265.2	M ²	7,000.00	1,856,400.00
4	Provide provisional sum to cover for removal deteriorated asbestoes covering material and cartaway from site	331.84	M ²	3,000.00	995,520.00
5	Supply and apply threecoats emulsion paint to new ceiling surface	265.2	M ²	7,500.00	1,989,000.00
	SUB TOTAL				11,422,040.00
J	PSYCHIATRIC BLOCK				

1	28 Gauge type corrugated Iron roofing sheets as manufactured by the ALUCO Division of Aluminium African Ltd. P.O Box 9293 Dar es Salaam or other equal and approved by the responsible Engineer laid with at least one and a half corrugations side laps	106.2	M ²	18,000.00	1,911,600.00
2	Supply and fix ceiling boards as per manufacturer and approved by responsible engineer	77.5	M ²	7,000.00	542,500.00
3	Provide provisional sum to cover for removal deteriorated asbestoes covering material and cartaway from site.	106.2	M ²	3,000.00	318,600.00
4	Supply and apply threecoats emulsion paint to new ceiling surface	77.5	M ²	7,500.00	581,250.00
	SUB TOTAL				3,353,950.00
K	MARTENITY WARD & ADMN. BLOCKS				
1	28 Gauge type corrugated Iron roofing sheets as manufactured by the ALUCO Division of Aluminium Africa Ltd, P.O Box 9293 Dar es Salaam or other equal and approved by the responsible Engineer laid with at least one and a half corrugations side laps	740.2	M ²	18,000.00	13,323,600.00
2	Supply and fix ceiling boards as per manufacturer and approved by responsible engineer	587.26	M ²	7,000.00	4,110,820.00
3	Provide provisional sum to cover for removal deteriorated asbestoes covering material and cartaway from site.	740.2	M ²	3,000.00	2,220,600.00
4	Supply and apply threecoats emulsion paint to new ceiling surface	587.26	M ²	7,500.00	4,404,450.00
	SUB TOTAL				24,059,470.00
L	ST. ALOYCE WARD				
1	28 Gauge type corrugated Iron roofing sheets as manufactured by the ALUCO Division of Aluminium Africa Ltd. P.O Box 9293 Dar es Salaam or other equal and approved by the responsible Engineer laid with at least one and a half corrugations side laps	388.5	M ²	18,000.00	6,993,000.00
2	28 gauge Ridge capping C. iron sheeting of size to be directed by responsible Engineer.	145	M	8,000.00	1,160,000.00

3	Supply and fix ceiling boards as per manufacturer and approved by responsible engineer	278.37	M ²	7,000.00	1,948,590.00
4	Provide provisional sum to cover for removal deteriorated asbestos covering material and cartaway from site.	388.5	M ²	1,500.00	582,750.00
5	Supply and apply threecoat emulsion paint to new ceiling surface	278.37	M ²	7,500.00	2,087,775.00
	SUB TOTAL				12,772,115.00
M	SISTER'S WARD				
1	28 Gauge type corrugated Iron roofing sheets as manufactured by the ALUCO Division of Africa Ltd, P.O Box 9293, Dar es Salaam or other equal and approved by the responsible Engineer laid with at least one and a half corrugations side laps.	333.55	M ²	18,000.00	6,003,900.00
2	28 gauge Ridge capping C. iron sheeting of size to be directed by responsible Engineer	139	M	8,000.00	1,112,000.00
3	Supply and fix ceiling boards as per manufacturer and approved by responsible engineer.	250.1	M ²	7,000.00	1,750,700.00
4	Provide provisional sum to cover for removal deteriorated asbestos covering material and cartaway from site	333.55	M ²	3,000.00	1,000,650.00
5	Supply and apply threecoats emulsion paint to new ceiling surface	250.1	M ²	7,500.00	1,875,750.00
	SUB TOTAL				11,743,000.00
N	ST. JOSEPH WARD				
1	28 gauge type corrugated Iron roofing sheets as manufactured by the ALUCO Division of Aluminium Africa Ltd. P,O Box 9293 Dar es Salaam or other equal and approved by the responsible Engineer laid with at least one and a half corrugations side laps.	377.44	M ²	18,000.00	6,793,920.00
2	Supply and fix ceiling boards as per manufacturer and approved by responsible engineer	294.44	M ²	7,000.00	2,061,080.00
3	Provide provisional sum to cover for removal deteriorated asbestos covering material and cartaway from site.	377.44	M ²	3,000.00	1,132,320.00
	Supply and apply threecoats emulsion				

4	paint to new ceiling surface	294.44	M ²	7,500.00	2,208,300.00
	SUB TOTAL				12,195,620.00
P	NYERERE WARD				
1	28 Gauge type corrugated Iron roofing sheets as manufactured by the ALUCO Division of Aluminium Africa Ltd, P.O Box 9293 Dar es Salaam or other equal and approved by the responsible Engineer laid with at least one and a half corrugations side laps.	383	M ²	18,000.00	6,894,000.00
2	Supply and fix ceiling boards as per manufacturer and approved by responsible engineer.	284.52	M ²	7,000.00	1,991,640.00
3	Provide provisional sum to cover for removal deteriorated asbestos covering material and cartaway from site	383	M ²	3,000.00	1,149,000.00
4	Supply and apply threecoats emulsion paints to new ceiling surface.	284.52	M ²	7,500.00	2,133,900.00
	SUB TOTAL				12,168,540.00
Q	ST. FRANCIS WARD				
1	28 Gauge type corrugated Iron roofing sheets as manufactured by the ALUCO Division of Aluminium Africa Ltd., P.O Box 9293 Dar es Salaam or other equal and approved by the responsible Engineer laid with at least one and a half corrugations side laps	1279.43	M ²	18,000.00	23,029,740.00
2	28 gauge Ridge capping C. iron sheeting of size to be directed by responsible Engineer.	350	M	8,000.00	2,800,00.00
3	Supply and fix ceiling boards as per manufacturer and approved by responsible engineer	833.86	M ²	7,000.00	5,837,020.00
4	Provide provisional sum to cover for removal deteriorated asbestos covering material and cartway from site.	1279.43	M ²	3,000.00	3,838,290.00
5	Supply and apply threecoats emulsion paint to new ceiling surface	833.86	M ²	7,500.00	6,253,950.00
	SUB TOTAL				41,759,000.00
R	PROVISIONAL SUMS				
1	Provide provisional sum to cover for Electrical items destructed.	1	item	6,500,000.00	6,500,000.00
	Provide provisional sum to cover for				

2	deteriorated timber.	1	item	10,000,000.00	10,000,000.00
	SUB TOTAL				16,500,000.00
	GRAND TOTAL				219,036,515.00

Appendix ---(ii)

PATHOLOGICAL EFFECT OF ASBESTOES ON HUMAN

What is asbestoes?

Asbestoes is the name given to a group of minerals that occur naturally in the environment as bundles of fibers that can be separated into thin, durable threads. These fibers are resistant to heat, fire, and chemicals and do not conduct electricity. For these reasons, asbestoes has been used widely in many industries.

Chemically, asbestoes minerals are silicate compounds, meaning they contain atoms of silicon and oxygen in their molecular structure.

Asbestoes minerals are divided into two major groups: Serpentine asbestoes and amphibole asbestoes. Serpentine includes the mineral chrysotile, which has long, curly fibers that can be woven. Chrysotile asbestoes is the form that has been used most widely in commercial applications. Amphibole asbestoes includes the minerals actinolite, tremolite, anthophyllite, crocidolite, and amosite. Amphibole asbestoes has straight, needle – like fibers that are more brittle than those of serpentine asbestoes and more limited in their ability to be fabricated.

ASBESTOES LUNG DISEASE

- The risk of asbestoes related lung disease is both dose related and period of exposure. That means the higher the concentration of the dose the earlier the appearance of disease symptoms. On a prolonged exposure to the low doses of asbestoes particles, will give similar ending of lung disease symptoms

What are the health hazards of exposure to asbestoes?

People may be exposed to asbestoes in their workplaces, their communities, or their homes. If products containing asbestoes are disturbed especially during windy seasons, tiny asbestoes fibers are released into the air. When asbestoes fibers are breathed in, they may get trapped in the lungs and remain there for a long time. Overtime, these fibers can accumulate and cause scarring and inflammation, which can affect breathing and lead to serious health problems.

Asbestos has been classified as a known human carcinogen (a substance that causes cancer) by the U.S. Department of Health and Human Services. The U.S. Environmental Protection Agency (EPA) and the International Agency for Research on Cancer. Studies have shown that exposure to asbestos may increase the risk of lung cancer and mesothelioma (a cancer of the thin membranes that line the chest and abdomen). Mesothelioma is the most common form of cancer associated with asbestos exposure. In addition to lung cancer and mesothelioma, some studies have suggested an association between asbestos exposure and gastrointestinal and colorectal cancer, as well as an elevated risk for cancer of the throat, kidney, esophagus and gallbladder. However, the evidence is inconclusive.

Who is at risk for an asbestos-related disease?

Everyone is exposed to asbestos at some time during their life. Low levels of asbestos are present in the air, water, and soil. However, most people do not become ill from their exposure. People who become ill from asbestos are usually those who are exposed to it on a regular basis, most often in a job where they work directly with the material or through substantial environmental contact.

How are asbestos-related diseases detected?

Individuals who have been exposed to ASBESTOES FIBERS on job, through environment or at home via a family contact working with asbestos, symptoms of asbestos-related diseases may not become apparent for many decades after the exposure. He/she may present to a doctor with the following:

- Shortness of breath, wheezing or hoarseness
- A persistent cough that gets worse overtime
- Blood in the sputum (fluid) coughed up from the lungs
- Pain or tightening in the chest
- Difficulty swallowing
- Loss of appetite.
- Weight loss
- Fatigue or anemia

Through physical examination, including chest X-ray and lung function tests may be recommended.

Computed tomography is more effective than chest x-ray.

Bronchoscopy is another investigation which can be used. Asbestos fibers can be detected also in urine, mucus, faeces, although they do not determine how much asbestos may be in individual's lungs.

HOW DOES ASBESTOES AFFECT THE LUNG?

There are two possibilities of clearing out the asbestos particles (dust) once inside the lung tree spaces BRONCHIOLES

- i) Clearance by coughing out the sputum with asbestos particles after mucociliary ladder movement on the surface of the Bronchus. Sweeping out the particles.
- ii) Phagocytosis of particles by macrophages, after that there is migration through lymphatic vessels causing lung disease in case of heavy dose exposure or long period exposure.

Parts of extract from

- British Medical Journal of 29 August 2009 page 506.
- From the internet

CONCLUSION:

In order to serve our life of hospital staff and patients being exposed for a long time and getting asbestos disease i.e. ASBESTOESIS, MESOTHELIOMA, LUNG CANCER etc. we request some people around the world, who can sympathize with us and help us to replace the asbestos sheets at Huruma Hospital.

Appendix---(iii)

RAIN WATER HARVEST FROM ASBESTOES SHEETS IS CONTRAINDICATED

- Huruma Hospital faces an acute shortage of water. This is more serious during August, September and October which is a dry season of the year.
- Geological survey of most parts of ROMBO district indicate a very deep water table. That is most of the rocks are (porous) permeable to water. The rain water goes into deeper levels leaving dry layers of soil on top.
- The easy way to solve the problem of water shortage at Huruma Hospital is **rain water harvest** and storage in water tanks to be used during routine hospital procedures. Bore holes will be very expensive.
- The hospital water bill per month is 1.3 million and per year is 16 – 17 million Tsh. When the asbestos sheets roofing is replaced by corrugated iron sheets, this fund will be used for other Hospital Health services.
- Rain water harvest is recommended in several institutions within ROMBO District. Huruma Hospital has not benefited from this recommendation, because of the dangerous water harvested from asbestos sheets.
- Rain water is used in preparations of intravenous fluid because of its softness. Huruma Hospital has a machine to prepare the intravenous fluids. The water has to be distilled first before use; and this raises the cost of preparation. When we start rain water harvest from the corrugated iron sheets the cost of preparation will remarkably be reduced.
- Health services at Huruma Hospital will be cost effective, efficient by replacing **Asbestos sheets** with **corrugated iron sheets.**