



# THE QUANTITY SURVEYOR

Promoting the Advancement of the Practice of the Quantity Surveying Profession

Official Journal of the Institute of Quantity Surveyors of Kenya

**SUSTAINABILITY IN ACTION:**  
**Environmental  
assessment tools**

**FEATURE**  
**The quantity surveyor  
beyond quantities**

MAIN FEATURE

**Quality with Efficiency:**  
**The MCEDO School in  
Mathare Valley**





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**COVER PHOTO:**  
A front view of the MCEDO School - Mathare Valley, Nairobi.

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Welcome to the last Issue of the *Quantity Surveyor* for 2014. It has been a year filled with activity and lots of milestones for the Institute, most of which the Chairman has highlighted in his article. We hope that the year 2015 will be even brighter as we begin our journey of 'life after 20!'

A while back I attended a public lecture at the Technical University of Kenya. The main speaker was a doctoral student in architecture from China, interning at the UN-Habitat. The topic was on pre-fabricated construction technology and the case study was the MCEDO School in Mathare Valley, Nairobi, where an architectural team from the Chinese University of Hong Kong was involved in replacing the dilapidated structures of the school with a new technology.

In this journal, we feature this school, a stand-out feature within the slum environment. The technology could be a worthwhile consideration by consultants in the construction industry, considering the costs and the time involved in setting up structures using it.

The International Cost Engineering Council held its biennial congress in Milan, Italy from the 19th – 22nd October 2014 and Kenya was ably represented by QS Jennifer Musyimi and Dr. Njeri Wachira-Towey. The latter's report on the congress

is contained inside. The congress aims at an international exchange of ideas among professionals in the built environment, and especially those concerned with the costs of projects.

The delegates are usually drawn from all the five continents and the experiences are rich and memorable. I would like to urge our members to start saving for the 10th World Congress in 2016 in Rio de Janeiro, Brazil.

It should make an interesting experience, to be able to watch the Olympic Games and, at the same time, enrich our professional experience!

As usual, we continue to push the agenda for sustainable construction and green technology: the adoption of building designs, construction methods and materials that are environmentally friendly. This is something that all of us should be striving towards, whether as consultants or developers.

But what makes a green building 'green'? Who determines which buildings qualify for the recognition? In our regular feature on sustainable construction, we look at some of the rating tools available globally and the criteria they employ.

Maybe it is time Kenya started thinking about developing its own rating system,

or at least adopt and customize one of the existing ones to local conditions. Just a thought!

Other interesting articles and information are also contained in the journal. We hope you will find them both informative and thought-provoking. We in the Editorial are grateful to you, our readers, for the contributions in form of articles and advert space that you continue to send us.

We trust you will continue according to us the same support as we go into the New Year. We are especially impressed by the number of articles we continue to receive to consider for publication, which unfortunately cannot all be published because of the available space. We promise to endeavor to publish all of them in the coming Editions.

As we enter the festive season, let us not forget the less fortunate members of our society who may not have the chance to experience the joy of Christmas.

Let us share with them the little blessings we have received. As someone rightly said, Christmas is that one day in the year that reminds us that "we're here for something else besides ourselves."

*Sylvester Oluoch*  
- Asst. Editor

*"The congress aims at an international exchange of ideas among professionals in the built environment, and especially those concerned with the costs of projects. The delegates are usually drawn from all the five continents and the experiences are rich and memorable. I would like to urge our members to start saving for the 10th World Congress in 2016 in Rio de Janeiro, Brazil. It should make an interesting experience, to be able to watch the Olympic Games and, at the same time, enrich our professional experience!"*



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# Thank You!...



**Qs Andrew Mandere**  
Chairman, IQSK Council

one of them. Without mentioning names, I wish to assure all of you that I greatly appreciate your individual efforts that have made all our programs the great success stories that they have been.

In a very special way I also wish to appreciate those non-council members who offered to serve in the various committees and subcommittees of the Council for answering our call to members to participate actively in the Council's programs. This has gone a long way in making the work of Council members lighter. To all of you we say AHSANTE SANA NA MBARIKIWE.

There are still several openings in the various committees of the Council for those who would like to offer their services and expertise to the Council in the New Year. Please get in touch with the Secretariat and we shall be pleased to assign you to one of the Committees. Our members of staff at

successes this year. The first is the launch of the IQSK Medical Scheme. This was done in October 2014 and offers very attractive rates for both out and in-patient schemes. The Institute is urging all our members, their families and staff to join the Scheme. If we get a critical mass of members we will be able to continuously negotiate lower premiums.

The second achievement is the negotiation of a Mutual Recognition Agreement with the RICS. The MOU was signed on 6th November, 2014. This means all IQSK Corporate and Fellow members of more than five years in good standing are eligible to apply for membership of RICS without having to sit for any examinations.

This comes with a requirement to subscribe to RICS code of conduct and an elaborate continuous professional development programme. We consider this to be a positive development as we shall

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With this fourth and final issue of *The Quantity Surveyor* for the year, we mark the beginning of the end of the year 2014. I wish to take this time to say a big thank you to all our members for the support they have accorded the current Council since their election in office in May, and also the support to the Secretariat throughout this year, to ensure the success that we have witnessed in all our programmes and events.

Indeed it has been a very busy year, arguably one of the busiest in the life of the Institute. This was because we are marking twenty years of our existence and had several activities outlined to mark this milestone, most of which were being carried out for the first time in our short history.

I would like to thank in a special way the members of the Council for their tireless and selfless effort in ensuring the growth of the Institute. I am grateful to them for their investment of their time and resources, which they have put at the service of the Institute through the various responsibilities that were allocated to each

the Secretariat have done a brilliant job of coordinating all the programs and events that we have had this year. Without their hard work and sacrifice nothing would have succeeded. To them all I say thank you and well done.

We look forward to your continued dedication and service as we try to improve your terms and conditions at work. I now wish to mention two of our outstanding

be benchmarking with some of the best institutes in the world. Further details will be released to all members shortly.

Before I pen off may I invite you all to our Inaugural Professional Excellence Award ceremony/annual gala dinner on 28th November, 2014 at the Inter-Continental Hotel. Come and let us all close the year on a high note. Otherwise have a blessed festive season and happy New Year, 2015.

# Crown Paints Group enters Tanzania



**Tanzania Trade Minister Dr Kigoda and Crown Paints CEO Rakesh Rao Pictorial during Crown Paints Tanzania Launch.**

East Africa's leading paint manufacturer Crown Paints Group announced its entry into the Tanzania paint industry on 15th October, 2014. The Group, which was established in 1958, intends to invest USD\$3.6million in the next 18months to build a leading Paint Company that will transform the lives of Tanzanians. Crown Paints has also opened Tanzania's first ultra-modern paint showroom located in Dar es Salaam.

Crown Paints, which has major operations in Nairobi, Kigali, Kampala, Arusha, Mwanza and Juba also announced that Dar-Es-Salaam will become the headquarters of Crown Paints Tanzania, enabling the company to expand into other provinces in the country. Listed in EA largest securities exchange, Nairobi, Crown Paints specialises in decorative paints, protective, automotive, and innovative products such as Amourcoat, Acryline, Flowcrete amongst others.

Rakesh Rao, CEO of Crown Paints Group, said: "This is our second step into the Tanzanian paint industry, since we have already established a mini plant in Arusha and distribution depots in Arusha and Mwanza. We want to build a strong long-

term partnership with the people and government of the Republic of Tanzania. We also want to help build a thriving paint industry that will transform lives of Tanzanian citizens.

We have an ambitious vision for this business. We want to make it the leading paint company in Tanzania. And we will be making Dar, the hub for our Tanzania operations, providing a strong base for our expansion into other provinces in the country."

The Tanzanian construction sector is also among the very important sectors that contribute hugely to the Gross Domestic Product (GDP). Last year, it accounted for 11.9% of all the wealth that was generated in the country. The sector also employs about 9% of the workforce in Tanzania.

The construction sector is expected to continue its strong growth path in the near future. This is backed by continued investments in the recently discovered natural gas reserves in Tanzania and the expansion in public investments (including the ongoing construction of USD 1.2 billion gas pipeline from Mtwara to Dar es Salaam), as well as the related investments

aimed at stabilizing power generation in the country. Crown Paints has grown to become a company with an annual turnover of USD 61.2 million and is now producing 2.3 million litres of paint per month.

Speaking at the launch, Crown Paints Group Vice Chairman, Hussein Ramji revealed that the firm is set to expand into other markets. Mr Ramji explained that export market was a key contributor to the group sales volume. "Our export markets sales volume increased by 50pc in 2013. These export markets included Southern Sudan, Rwanda, Burundi and Tanzania. With a robust marketing and distribution in place, this year, we hope to maintain growth in these countries," he said.

At the same time, Mr Rao disclosed that Crown Paints Tanzania, will be part of Crown Paints Group CSR programme, which will be enabling local employees to support and volunteer for good causes. The company has invested in education, health and environment. Mr Rao added CSR has assumed a new meaning in today's world. "In recent years, CSR has become an increasingly important activity to businesses nationally and internationally."

Through Crown Paints CSR Program, he said we are supporting government directly and indirectly to better the society. In the last six months, Crown Paints has been proactive in sponsorship for destitute and underprivileged children through feeding programmes, talent development, school fees support and transformation of learning environment.

Dr. Abdallah O Kigoda, Minister for Industry & Trade said, "We are excited to welcome Crown Paints Tanzania. Crown Paints Group is a highly rated company in EA. And the announcement made here today, will create job opportunity for our youthful population and offer training for painters across the country."



# Quality with Efficiency: The MCEDO School in Mathare Valley

*The light-weight structure requires less materials and energy in foundation construction. Calculations show that such a building weighs 190 kg/m<sup>2</sup>, approximately 1/6 of the average brick structure. This means that foundation construction can be simplified. The 2 rows of 2-storey buildings are supported by 78 pillars that go 50cm deep into the ground.*

By Zhengli Huang

MCEDO is a community-based organization and a school located in Mathare Valley, one of the biggest informal settlements in Nairobi. The initial structure of the school was built 6 years ago, with a layout of two rows of classrooms lining up one courtyard in between, allowing better lighting and ventilation for the classrooms on both sides. The expansion of MCEDO was sponsored by the Kenya-China Trade and Economic Association and designed by a team from the Architecture Faculty of the Chinese University of Hong Kong.

The unpleasant living conditions in Mathare Valley is in great contrast with the friendly climate in Nairobi. A river runs through the valley, only to become part of the drainage system which has been in dysfunction for years.

Common building styles consist of timber and iron sheet shacks and multi-floor brick structures. Take a view at the top of the hill of the community and you'll find the dense roofs of iron sheets covering most of the areas. The narrow and curling road system is hardly distinguishable from the organic pattern. MCEDO's location at the border of the community, facing a

small piece of open ground, offers better opportunity for its expansion. Existing school buildings include two rows of brick classrooms connected by a bridge, and an independent kitchen, with two rows of shacks lining up the edge of the plots. Absence of a well-finished pavement on the ground forces the children to study with their feet on the wet muddy floor in the shacks during the rainy seasons. The

*“In order to control the quality of the pre-fab products, all the structural units are produced in factories in China and are shipped to Mombasa in containers. The structural units are designed to fit into the containers in a very compact gesture for budget logistic purposes.”*

donation of the new building allowed the school to replace those temporary shacks with structures of better quality.

The social environment and school semester schedules demanded that the construction be done within a limited timeframe. Fortunately, fast construction was not new to the architectural team from the Chinese University of Hong Kong. The team has been working on pre-fab construction since 2008 and has developed multiple systems that adapt to a variety of site conditions.

The logic for such systems is their simplicity; basic structural units are manufactured in factories and the main construction work on site is in the stacking of these units together in designated sequences. In the case of MCEDO, the accessibility of the site and the open ground facing the school allowed the use of heavy machinery, which further accelerated the progress on site.

The light-weight structure requires less materials and energy in foundation construction. Calculations show that such a building weighs 190 kg/m<sup>2</sup>, approximately 1/6 of the average brick structure. This means that foundation construction can be simplified. The 2 rows of 2-storey buildings are supported by 78 pillars that go 50cm deep into the ground, each standing on an 80 cm square footing.

Soil excavation was not necessary even though the original ground had a 20cm height difference on two sides of the plot. The leveling and the alignment of the pillars is what became essential. The pillars have a 25cm diameter thus the contact surface with the floor slabs is limited, this demanded extra accuracy in design and construction.

In order to control the quality of the pre-fab products, all the structural units are



A view of the MCEDO School taken by a drone.

produced in factories in China and are shipped to Mombasa in containers. The structural units are designed to fit into the containers in a very compact gesture for budget logistic purposes. Because the standard volume of a container is 2.35 m x 2.35 m x 12.03m, all the floor slabs for the new wing of MCEDO were given the size of 2.30m x 5.90m, so that each container could fit two piles of floor slabs.

The units have a foldable feature dedicated to compact shipping and rapid assembly on site. Floor and ceiling panels are connected with y-shaped columns. All structural parts are connected with hinged joints. Different types of bolts are applied following force analysis. When joints are loosened, the solid frames can be folded into panels. This design ensures a high-quality building is put up promptly in a dense and complex environment such as Mathare Valley. In the same token the whole building can be disassembled and reassembled with ease.

The containers arrived on the site on Aug. 28th, 2014. The structure assembly took 7 days and was finished on Sep. 3rd, during



Hoisting of the pre-fabricated panels in progress.

which heavy raining occurred and lasted for 2 days and forced the construction to stop for 48 hours. It therefore means that when conditions allow, a structure of 580 m<sup>2</sup> (two-floor classrooms) can be completed in 5 days.

A 30-ton crane was hired to assist the structure assembly. The structural part includes the floor and roofing panels and the columns. When these parts are erected

and fixed, the rest of the installation is designated to be managed by hand tools. Wall panels, door panels and window panels slide into the spaces in between beams, blocked by C-channels at two ends which are attached to the beams vertically.

Except for the crane operator, all construction workers were hired from the community. The headmaster organized a monitoring team of teachers, a contractor and a security manager. This team became the focal point of reaching out to the local resources. When it came to light and safe works such as stacking materials and tidying up floors and walls, school kids and their mothers were encouraged to take part. This was essential for capacity building in the community, and also helps bond the future users of the spaces to their physical environment.

The project aims at an environmental-friendly construction and a user-friendly product. The prefab system guarantees that field work takes a shorter time and no contamination is made during assembling. The system also provides an opportunity to integrate self-sustaining power





An aerial view showing the site before the construction began (left) and after the construction was completed.

provision into the design. The façade towards the open ground to the west has a mobile feature: when kids find the afternoon glare too much, they can easily slide the aluminum sun-shields outside the windows to prevent the glare. This makes classes not only comfortable but also fun to the kids.

“The architectural team from CUHK constantly keeps in the loop with the running of the building and offers constant support.”

The image of the new building in the informal dwelling setup has had significant social impact. It becoming a landmark in the area will be a demonstration of the importance of community facilities in such settlements, functioning as a link between the “formal” building industry and the actually sophisticated social networks and



The open courtyard within the school.

building industries within the “informal” communities. The architectural team from CUHK constantly keeps in the loop with the running of the building and offers constant support. It is also dedicated to establishing a network of local expertise in Kenya so that more communities can benefit from such building systems and comprehensive maintenance can be achieved on a larger scale.

The writer is a Master in Urban Design from the Technical University of Berlin. She is currently a PhD candidate in architecture at Shanghai Tongji University, and a senior project manager from the School of Architecture at the Chinese University of Hong Kong. She worked as a consultant for projects in Kisumu and Nairobi during her internship at the UN-Habitat.



The site before (left) and after the construction of the school (right).

## 39Th International Cost Engineering Council (ICEC) Meeting – Milan, Italy

The above meeting took place on the 18th and 19th September 2014 at the AICE head office. The agenda was long (120 pages) covering a very wide range of issues. I attended the council meeting representing IQSK and also in my new capacity as the ICEC Africa region Deputy Director of Academic Forums and Research. IQSK was also represented by the Hon. Registrar QS. Jennifer Musyimi. Minutes of the 38th meeting were tabled including various reports from the ICEC executive officers and member association including IQSK.

The ICEC constitution revisions, strategic plan, action plan and budgets were presented. Detailed information on all matters deliberated in the meeting is available on the ICEC website and on the agenda report. I will attempt to highlight some of the issues that are of interest to IQSK below.

ICEC is a worldwide assembly of national professional organisations with the cost engineering (CE), quantity surveying (QS) and project/program management (PM) disciplines aiming at ensuring the best possible foundation for successful project execution. After 35 years of existence the executive wishes to centre on the following;

1. Strengthening the interaction between CE, PM and QS disciplines
2. Increasing cooperation with IPMA (International Project Management Association), national PM organisations and other strategic cooperation partners

3. Further developing ICEC as a portal to the project world
4. Encouraging and helping member organisations to implement certification programs
5. Influencing decision makers/authorities
6. Higher visibility and relevance of ICEC in daily life in member organisations
7. Increasing the number of member organisations and resources.

Moreover the action plan 2014-2016 focuses on the establishment of a baseline body of knowledge for CE, QS & PM; development of an ISO standard for CE; integrating research and education programs into ICEC activities; developing a strategy for the participation of younger members; collaborating with RICS and CEEC on formulating an international construction measurement standard for quantity surveying; and continuing efforts towards development and implementation of UN strategy including recognition of the profession by CPC, ECOSOC and WTO.

New member associations from Germany, Canada and France were admitted and the Kenneth Humphreys Outstanding Paper award for young professional and student members were given but notably there were no Kenyan participants; something we intend to address in future. One of the significant occurrences at the meeting was the signing of the Memorandum of Cooperation between the AAQS and ICEC which commits the parties to;

1. Work together to promote



By QS Njeri Wachira-Towey  
Deputy Director – Academic Forums/Research, ICEC Region 3

- internationally recognised standards and best practices in QS, CE, and PM
2. Exchange information relating to their activities
3. Collaborate on research projects to promote the advancement of best practices in QS, CE and PM
4. Promote the professions and professional standards in Africa.

Finally, the incoming ICEC 2014-2016 Executive Board was unveiled as follows: Chair – Dr. Alexia Nalewaik; Senior Vice-Chair – TT Cheung; Administrative Vice-Chair – K Osei-Asante & A Kerin; Technical Vice-Chair – A do Valle; Secretary General – P Smith; and Immediate past Chair – C Wredstrom. For Region 3 Africa: Region Director – R Pearl; Deputy Directors – External relations – F Onashile, Marketing – K Ayirebi, Standards/Professional development – C Mbeledede, Academic Forums/Research – N Towey, Assistant Secretary – E Wortaman.

It was agreed that the 2016 ICEC world congress will be in Rio de Janeiro, Brazil and 2018 in Sydney, Australia to facilitate early planning for those intending to attend.



Region 3, Africa Delegates to the ICEC 39th council meeting.



# Sustainability in action: Environmental assessment tools

*A major disadvantage of the assessment tools however is the fact that they assume a direct correlation between environmental, technical and physical aspects of the buildings and ignore the user.*



**Leah Kanda**  
Member of the Editorial Committee



States Green Building Council in 1998. Like BREEAM, it is quite comprehensive and covers all types of construction from new buildings to fit-outs. The green building assessment tool has been modified by countries such as Canada, India and Brazil to suit their country's legal and environmental systems.

## Green Star

This is an Australian green building assessment tool launched in 2002. It was moulded according to BREEAM and LEED standards. Country specifications of this assessment tool have been adopted in South Africa and New Zealand as well. Being relatively new, it has managed to certify roughly 345 buildings.



Green-Star allows for certification of separate categories such as the precinct planning and development through its Green-Star Communities certification, Green-Star Design and As Built for building design and construction, Green-star Interiors for Fit out design and construction as well as Green-Star Performance certification for building operations and maintenance.

## Comprehensive Assessment System for Built Environment Efficiency (CASBEE)

CASBEE was a joint industrial, government and academic venture developed by the Japanese government through its ministries of land, infrastructure and urban development. The assessment system also covers predesign, new construction, existing building and renovations. Other categories for urban heat island effect, urban development and temporary works



Most people are conversant with "green buildings". Mention the terminology in a given setting and you are likely to get a definition and cited examples in some cases. What most people don't know is the procedure behind the classification of green buildings. How is it that some buildings are rated as greener than others yet all of them are sustainable? Why do some buildings win Green Building Awards, for example, while the rest don't?

With the onset of sustainable development, more and more buildings lay claim to sustainability. There was therefore an urgent need to assess buildings and set a criterion by which they could be scored, this lead to the development of Building Environmental Assessment Methods (BEAMS). The criteria by which BEAMS evaluate buildings are based on thorough scientific, technical, physical and environmental research and involve a consortium of experts from various fields.

BEAMS therefore analyse all aspects of a building right from its design, products, materials and methods used in construction, cost efficiency as well as its environmental impact and efficiency in resource utilization. The building is then given a score board against the variables. It is important to note that some of the green building evaluation methods may focus on one major factor e.g. energy efficiency and

carbon footprint hence a building's rating is therefore dependent on the BEAM that is being used to assess it.

There are various global green building assessment tools, among the major ones are BREEAM, LEED, CASBEE and Green Star.

## Building Research Establishment Environmental Assessment Method (BREEAM)



This was the first ever sustainability assessment tool having been launched in 1990 in the United Kingdom. Being the first in the industry, it paved the way for the other assessment tools and indeed most countries have borrowed the BREEAM format and modified it to suit their local scenes. Over 250,000 buildings have been certified since its inception.

BREEAM is very comprehensive and encompasses broad categories right from energy to ecology. It's criteria therefore evaluate a building against set benchmarks such as its energy and water usage, internal environment (health and comfort), pollution, transport, waste, ecology and management processes.

## Leadership in Energy and Environmental Design (LEED)

LEED is a green building certification system that was developed in the United

Application	Name
For Detached Houses	CASBEE for Detached Houses (for New Construction, for Existing Building)
For Temporary Construction	CASBEE for Temporary Construction
Brief versions	CASBEE for New Construction (Brief Version), for Existing Buildings (Brief version), for Renovation (Brief version) CASBEE for Urban Development (Brief version)
Local government versions	CASBEE-Nagoya, CASBEE-Osaka, CASBEE-Yokohama etc.
For Heat Island effect	CASBEE for Heat Island
For Urban Development	CASBEE for Urban Development
For Cities	CASBEE for Cities
For Market Promotion	CASBEE for Market Promotion

## Expansion of CASBEE classes for specific purpose.

have also been incorporated. It is not a popular assessment tool globally but has been modified for use mostly in Asian countries.

## Pros and Cons of BEAMS

Through incorporation of the environmental assessment methods right from pre-design, it is easier to plan as well as cost for a building as the designers and the building team already have a set of

be sourced responsibly as well as building techniques selected to ensure that there is minimum impact on the environment as the assessment tools also give a guide on the same. These, in addition to less energy and water consumption, result in cost effectiveness in the long run. A major disadvantage of the assessment tools however is the fact that they assume a direct correlation between environmental, technical and physical aspects of the

*“With the onset of sustainable development, more and more buildings lay claim to sustainability. There was therefore an urgent need to assess buildings and set a criterion by which they could be scored, this lead to the development of Building Environmental Assessment Methods (BEAMS). The criteria by which BEAMS evaluate buildings are based on thorough scientific, technical, physical and environmental research and involve a consortium of experts from various fields.”*

benchmarks to guide them in the process. Furthermore, sustainable and efficient buildings are able to be put up. This is exceptionally advantageous in an era where everyone is keen on going green.

The real estate value of certified green building in any economy will therefore be superior compared to those that are not. Materials to be used in construction will

buildings and ignore the user i.e. people are strangely absent from the image. They are assumed as keen participants whose aims are identical to those of the building being sustainable.

No amount of design can save the energy bill of an occupant who does not practise energy saving behaviour (Bay & Ong, Tropical Sustainable Architecture). Both

lifestyle and technology contribute to sustainability and hence must be incorporated when assessing green buildings.

Most of the global Green building assessment tools are designed to assess sustainability of buildings in developing countries hence if not adopted to suit the country of use tends to be unfavourable especially for tropical countries. In the rush to develop their own regional assessment tools, many countries tend to copy-paste what is prescribed by LEED and BREEAM and change the specifications without even conducting research. This is quite unfortunate.

The building assessment tools also tend to stifle and limit innovation as at times a building may have incorporated design strategies and features beyond those being assessed. This is retrogressive and hence the need for the global building tools to be re-evaluated and revised more frequently. The fad to go green has led to

	Commercial buildings	Non-residential buildings	Residential buildings	Public buildings	Healthcare buildings	Education buildings	Government buildings	Industrial buildings	Other buildings
Transport Category									
Tru1: Public transport accessibility	1	1	1	1	1	1	1	1	1
Tru2: Proximity to airports	1	1	1	1	1	1	1	1	1
Tru3: Cycle facilities	2	2	2	2	2	2	2	2	2
Tru4: Maximum car parking capacity	2	2	2	2	2	2	2	2	2
Tru5: Road safety	1	1	1	1	1	1	1	1	1
Total credits available in Transport Category	9	9	9	9	9	9	9	9	9
Weighted % score of 1 credit in Transport Category	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Water Category									
Wat1: Water consumption	1	1	1	1	1	1	1	1	1
Wat2: Water re-use	1	1	1	1	1	1	1	1	1
Wat3: Water leak detection and prevention	2	2	2	2	2	2	2	2	2
Wat4: Wastewater treatment	1	1	1	1	1	1	1	1	1
Total credits available in Water Category	5	5	5	5	5	5	5	5	5
Weighted % score of 1 credit in Water Category	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45

Sample BREEAM assessment sheet.

most corporates putting up buildings just to obtain the LEED-certified status, without necessarily having the environment as mind. This defeats the essence of sustainable development.

When selecting an appropriate environmental tool, it is important that the tool be as holistic as possible and must not lean towards one aspect of sustainability, at the expense of the others.



# Progress report for BVP project

*I would consider the office we have just acquired as "Hardware", to use computer parlance. It is now up to us to utilize that "Hardware" effectively with appropriate "Software".*



**Qs David M. Gaitho**  
BVP Committee Chairman

Board by Qs firms. One of my last tasks as the Chairman of the project Steering Committee will be to revise the lettering on the board in order to accommodate more firms.

At a recent visit to BORAQS offices I was informed there are 200 registered Qs firms and all should strive to appear on this board.

On completion of loan payment of this project, I look forward to participating in a more challenging project (hopefully income generating) initiated by the Institute's Leadership.

Thank you my Committee, the Council and the entire membership for your support.

**Qs David M. Gaitho**  
BVP Committee Chairman

project – they too are welcome for advice! We are the envy of many professional associations. The project will now be run on "auto" by the Secretariat and the Council.

We continue to receive pledges and payments for appearance on the Honors

*“You have seen in the press how the Law Society is experiencing opposition from its members regarding their grand project – they too are welcome for advice! We are the envy of many professional associations. The project will now be run on “auto” by the Secretariat and the Council.”*

The life of the Project Steering Committee comes to an end this quarter. I am therefore writing the last article regarding the BVP project. It has been an exciting and challenging journey from July 2012 when we only had a proposal to December 2014, when we have a fully operational office. I can only say that God is Good.

In my interactions with officials of other professional associations, IQSK office purchase topic always comes up. These officials are seeking advice on how we did it especially membership acceptance. You have seen in the press how the Law Society is experiencing opposition from its members regarding their grand

## LIST OF CONTRIBUTORS AS AT 14th NOVEMBER 2014

CLASS OF MEMBERSHIP		IQSK NO.	
A FELLOW MEMBERS			
No	Name	Amount Received	
1	Qs. I. Njeri Wachira Towey	450,000.00	
2	Qs. Moses A. Nyakiongora	150,000.00	
3	Qs. Sylvester Munguti Masu	50,000.00	
4	Qs. Onesimus M. Gichuri	50,000.00	
5	Qs. Kimani Mathu	50,000.00	
6	Qs. Joseph Omariba Otukey	50,000.00	
7	Qs. Bramwell P. Kimokoti	50,000.00	
8	Qs. Antony Levitan	50,000.00	
9	Qs. Kishore Nayar	50,000.00	
10	Qs. Jacktone V. Hongo	50,000.00	
12	Qs. Norman Mururu	50,000.00	
13	Qs. Stanley K. Murage	50,000.00	
14	Qs. Adam Syngidura Marjan	50,000.00	
Sub-Total Amount		1,150,000.00	
B CORPORATE MEMBERS			
No	Name	Amount Received	
1	Qs. Moses K. Kimani	50,000.00	
2	Qs. Daniel Muthinga	50,000.00	
3	Qs. Cassius Murumba Kusienya	50,000.00	

4	Qs. Erastus Mwanjama Katani	36,000.00	
5	Qs. Omullo Pius Ouma	32,000.00	
6	Qs. John Gatimu Njagi	30,000.00	
7	Qs. Charles J. Mwaura	30,000.00	
8	Qs. Wilfred Gitau Ngaruiya	30,000.00	
9	Qs. Geoffrey Kahuria Koigi	30,000.00	
10	Qs. Raphael M. Muigai	30,000.00	
11	Qs. George Migwi Maina	30,000.00	
12	Qs. Leah Wangari Thumbi	30,000.00	
13	Qs. Milton J. Mugo Ndegwa	30,000.00	
14	Qs. John Muriithi Gaiko	30,000.00	
15	Qs. Gladys Wangui Wahome	30,000.00	
16	Qs. Lilian Wanjiku Kithinji	30,000.00	
17	Qs. Francis Chege Mwangi	30,000.00	
18	Qs. Lawrence Gatitu Mbugua	30,000.00	
19	Qs. Peter Njuguna Mugaki	30,000.00	
20	Qs. Patrick K. Kisia	30,000.00	
21	Qs. Anna Muthoni Muchungu	30,000.00	
22	Qs. Newton Dishon Maungu	30,000.00	
23	Qs. Robert K. C. Bunei	30,000.00	
24	Qs. Kibasui Ndonga	30,000.00	
25	Qs. James Munene Gitonga	30,000.00	
26	Qs. Mutegi John Mburire	30,000.00	
27	Qs. Rebman Ambalo Malala	30,000.00	
28	Qs. Lusweti Wose	30,000.00	

29	Qs. Joel Buku Munyori	30,000.00	
30	Qs. Mwititi Charles Mugambi	30,000.00	
31	Qs. Charles Maina Mwangi	30,000.00	
32	Qs. Adeline Mercy Dindi	30,000.00	
33	Qs. Mutinda Josphat Mutuku	30,000.00	
34	Qs. Andrew N. Mandere	30,000.00	
35	Qs. Karimi Stephen Muriithi	30,000.00	
36	Qs. Suleiman Ondieki Magere	30,000.00	
37	Qs. Patrick Tana Mutisya	30,000.00	
38	Qs. Paul Muthoka Munene	30,000.00	
39	Qs. Steve Rukwaro Muthui	30,000.00	
40	Qs. David Mwangi Gaitho	30,000.00	
41	Qs. Peter Njagi Thuo	30,000.00	
42	Qs. Nyagah Boore Kithinji	30,000.00	
43	Qs. Paul Muoki Musila	30,000.00	
44	Qs. Samson Getui Obao	30,000.00	
45	Qs. George Charles Omondi	30,000.00	
46	Qs. Hosea K. Ngari	30,000.00	
47	Qs. Martin M. K. Wamae	30,000.00	
48	Qs. Julius Meshack Oluoch	30,000.00	
49	Qs. Emmanuel M. Wamalwa	30,000.00	
50	Qs. Dr. Hezekiah Gichunge	30,000.00	
51	Qs. Michael Mbugua	30,000.00	
52	Qs. Silvester M. Mutharia	30,000.00	
53	Qs. Bashir H. Hajee	30,000.00	

## LIST OF CONTRIBUTORS AS AT 14th NOVEMBER 2014 ... Cont'd

54	Qs. Elizabeth Wangu Ndindi	30,000.00	
55	Qs. Aaron Muriithi Gitonga	30,000.00	
56	Qs. Francis Gatonga Kairu	30,000.00	
57	Qs. James Ouma Okaka	30,000.00	
58	Qs. Tom Oketch	30,000.00	
59	Qs. Nicholas M. Mutua	30,000.00	
60	Qs. James Ogoda	30,000.00	
61	Qs. E. O. Odhiambo	30,000.00	
62	Qs. Kenneth Mwaura	30,000.00	
63	Qs. Henry Mwangi Kibunja	30,000.00	
64	Qs. Francis O. Ombura	30,000.00	
65	Qs. Isaac M. Gitura	30,000.00	
66	Qs. Bernard M. Mandere	30,000.00	
67	Qs. James N. Nyambane	30,000.00	
68	Qs. Ali M. Adam	30,000.00	
69	Qs. Philip Muchungu	30,000.00	
70	Qs. Paul Kamatu Ngugi	30,000.00	
71	Qs. Charles Muita Kairu	30,000.00	
72	Qs. John O. Okerosi	30,000.00	
73	Qs. Peter S. Kariuki	30,000.00	
74	Qs. Abednego O. Gwaya	30,000.00	
75	Qs. Joel Gichimu Thaibiri	30,000.00	
76	Qs. Hon Moses N. Muihia	30,000.00	
77	Qs. Wanyona Githae	30,000.00	
78	Qs. David G. Mwaniki	30,000.00	
79	Qs. Jordan R. Opiyo	30,000.00	
80	Qs. Bernard M. Muhia	30,000.00	
81	Qs. Eddieson O. Otieno	30,000.00	
82	Qs. Patrick Njeru	30,000.00	
83	Qs. Peter K. Miriti	30,000.00	
84	Qs. Dennis Gitari	30,000.00	
85	Qs. Timothy Munene Nderitu	30,000.00	
86	Qs. Joseph Muriu Kibara	30,000.00	
87	Qs. George Kamau Ngure	30,000.00	
88	Qs. Jedida Waguthii Muchoki	30,000.00	
89	Qs. Michael Muthike Muriithi	30,000.00	
90	Qs. Abraham M. Mwashinga	30,000.00	
91	Qs. Mary Wachuka Gichuki	30,000.00	
92	Hon. Qs. Mohamed Mohamud Ali	30,000.00	
93	Qs. Michael Githinji Wanjohi	30,000.00	
94	Qs. Collins Otieno Aluga	30,000.00	
95	Qs. Lameck Karanja Mwangi	30,000.00	
96	Qs. Francis Mindo Gitaka	30,000.00	
97	Qs. Lawrence Omonyo	30,000.00	
98	Qs. Antony Githiri Kimani	30,000.00	
99	Qs. Peter Njoroge Ngahu	30,000.00	
100	Qs. Joseph Musyoka Basil	30,000.00	
101	Qs. Fredrick Ndaire Karua	30,000.00	
102	Qs. Cosmas Mutinda Musau	30,000.00	
103	Qs. Ali Alamin Mandhry	30,000.00	
104	Qs. Lamoni O. B. Ogweni	30,000.00	
105	Qs. David Maina Nguoy	30,000.00	
106	Qs. Robinson Mwangi Kariguh	30,000.00	
107	Qs. Samuel Mborothi Ntoiti	30,000.00	
108	Qs. Rudolf Mwangi	30,000.00	
109	Qs. Charles Mbugua Kamau	30,000.00	
110	Qs. Patrick Kinyua Mbogo	30,000.00	
111	Qs. Brian Kipkorir Toroitich	30,000.00	
112	Qs. Vincent Wafula Kuucha	30,000.00	
113	Qs. Benson Munala Mukoko	30,000.00	
114	Qs. Timothy Gichanga Manyuira	30,000.00	
115	Qs. Julius Mutemi Mwangangi	30,000.00	
116	Qs. Philip Amwata Osoro	20,000.00	
117	Qs. Julius Kiogora Ringera	20,000.00	
118	Qs. Francis M. King'ori	20,000.00	
119	Qs. Julius K. Matu	20,000.00	
120	Qs. Samuel K. Kamau	20,000.00	
121	Qs. Alfred M. Maweu	20,000.00	
122	Qs. David Mathu Njuguna	20,000.00	
123	Qs. Joseph Onyango Omondi	19,150.00	
124	Qs. Gabriel Muchoki	16,000.00	
125	Qs. Gideon Muthoka Musya	15,000.00	
126	Qs. James Maina Kamau	15,000.00	
127	Qs. Wilson G. Mwangi	15,000.00	
128	Qs. Samson Kirioba Maisiba	15,000.00	
129	Qs. Faith Njeri Kimani	15,000.00	
130	Qs. Mwaragania Wambugu	10,000.00	
131	Qs. Fredrick Austin Gachagua	10,000.00	
132	Qs. Dickson Kinari Kahoro	10,000.00	
133	Qs. Elizabeth W. Njoroge	10,000.00	
134	Qs. Susan Chepkorir	10,000.00	
135	Qs. Alex Kisangau Mwita	10,000.00	
136	Qs. Jendy Muriithi Marangu	10,000.00	
137	Qs. Gabriel Pius K. Mwangi	10,000.00	
138	Qs. Patricia Nthambi Josiah	10,000.00	
139	Qs. David Gidudi Choka	10,000.00	
140	Qs. Titus Mwangi Macharia	10,000.00	
141	Qs. Peter Mwangi Munderu	10,000.00	
142	Qs. Alex M. Makori Magembe	10,000.00	
143	Qs. Joseph Ojwang Onyango	10,000.00	

144	Qs. Alphonse Nyagilo Okweto	10,000.00	
145	Qs. Peter Kariuki Kanyi	7,500.00	
146	Qs. Olivia Sally Otieno	7,500.00	
147	Qs. Robert Kanake Munya	5,000.00	
148	Qs. Micheal G. M. Ngina	5,000.00	
149	Qs. Michael Mathenge Wanyagi	5,000.00	
150	Qs. Meshack Kipano Shunet	5,000.00	
151	Qs. Rose Nyambura Mwangi	5,000.00	
152	Qs. Karita George Ngugi	4,000.00	
153	Qs. Paul Musyoki Kimatu	4,000.00	
154	Qs. David Mwangi Kamau	4,000.00	
155	Qs. Sammy Joseph Nzyuko	3,000.00	
Sub-Total		3,973,150.00	

C LICENTATE MEMBERS			
No	Name	Amount Received	
1	David Kirubi Wahome	20,000.00	
2	Oliver Zablun Munala	20,000.00	
3	James Akumu Kanalo	20,000.00	
4	Pius M. Muoka	5,000.00	
5	Patrick Kanini Ngata	1,000.00	
Sub-Total Amount		66,000.00	

D GRADUATE MEMBERS			
No	Name	Amount Received	
1	Muli Shadrack Munyithya	15,000.00	
2	Alfred O. Gayo	15,000.00	
3	Ambrose K. Mwangi	15,000.00	
4	Martin Shikuku Murunga	15,000.00	
5	Maureen Njeri Kinyanjui	15,000.00	
6	Sylvester Onyango Oluoch	15,000.00	
7	Jason Wanyoike Njoroge	15,000.00	
8	Nelson Ondiek Mosota	15,000.00	
9	Edwin Mwangi Ngoru	15,000.00	
10	Gachagua Ngunjiri	15,000.00	
11	Patience Rachel Mulondo	15,000.00	
12	Hassan Mwinyi	10,000.00	
13	Patrick Nyolei Tonui	10,000.00	
14	Annruta Wanjia Mukindia	10,000.00	
15	Sammy Kimari Maina	7,500.00	
16	Jennifer Mumbua Watuka	5,000.00	
17	Fredrick N. Nyagacha	5,000.00	
18	Bryan Amunga Amboko	5,000.00	
19	Donald Adera Onyango	5,000.00	
20	Anthony Gakuru Muchiri	5,000.00	
21	Robert Kumutai Rono	3,500.00	
22	Lucas Mugo Ndung'u	2,000.00	
23	David Ung'ai Nahinga	2,000.00	
24	Esther Wangari Macharia	2,000.00	
25	William Ingea Kisyang'a	2,000.00	
26	Machel Samora Manyega	2,000.00	
27	Mary Waihiengi Waihenya	1,750.00	
28	Paniel Kithinji Kagiri	1,000.00	
29	Dickens Haguma	1,000.00	
Sub-Total Amount		244,750.00	

E TECHNICIAN MEMBERS			
Name	Amount Received		
1	Gilbert Kowuocha Odhiambo	15,000.00	
2	Paskwell Pancrass Kinyanjui	10,600.00	
3	Nancy Njeri Thuku	10,000.00	
4	Hannah Nyambura Mbugua	10,000.00	
5	John Karanja Mutwa	10,000.00	
6	Collins Olyula Ouma	10,000.00	
7	Sebastian Peter Kamairoh	10,000.00	
8	Vitalis Odida Otieno	10,000.00	
9	Julius Kilonzo	10,000.00	
10	Nashon Maloba Sande	10,000.00	
11	George Gatamu Githaiga	10,000.00	
12	Salome Wangui Nyathiira	10,000.00	
13	Moses Kimonyi Mutuku	9,000.00	
14	Michael Amena Jahonga	5,000.00	
15	Zacharia Muia Maithya	5,000.00	
16	Dominic Kimonyi Nguku	5,000.00	
17	Barnabas Kibet Too	4,000.00	
18	Pamela Atieno Ochiel	3,000.00	
19	Samuel M. Nyaga	3,000.00	
20	Joseph Aggey Okwado	3,000.00	
21	Haron Tsuna Hare	1,000.00	
22	Anne Wacuka Manyasi	1,000.00	
23	Peter Ayiaki	200.00	
24	Givons ogoma Juma	200.00	
Sub-Total Amount		165,000.00	

SUMMARY		AMOUNT RECEIVED
1	Fellow Members	1,150,000.00
2	Corporate Members	3,973,150.00
3	Licentiate members	66,000.00
4	Graduate Members	244,750.00
5	Technician Members	165,000.00



# Africa Association of Quantity Surveyors (AAQS) – General Assembly 2014

By Qs David M. Gaitho

Vice President, AAQS – Eastern Region

The sixth General Assembly of the African Association of Quantity Surveying was held in Pretoria, South Africa, on Sunday 21st September 2014. The venue of the meeting was the CSIR International Convention Centre, at the heart of Pretoria. It was a busy day for the AAQS fraternity with an agenda running from 8.00am to 5.00pm. Kenya was represented by Qs Dan Kimoro (past President) and yours truly.

The outgoing president, Michael Frimpong from Ghana, briefed delegates on the progress made by AAQS since he took over. This includes: the strengthening of the Secretariat based in Johannesburg, website development, the writing of the SMM for Africa, admission of firm members, formulation of Client/Consultants agreements, price list for Africa among others.

Reports from the active regions of South, West and East Africa were also received. One of the other key agenda in the meeting was the elections for new office bearers. As per the AAQS constitution, the President serves for one – three year term and it rotates among the regions.

Professor Rob Pearl from South Africa was elected as President. He previously served as the Chairman of the Education and Training Board. I was elected as the Vice President for Eastern region and Qs Festus Litiku retained his seat as Secretary General. Qs Dan Kimoro also remains on the Executive Board as past President. A delegate from Tanzania and Uganda will fill up the regional representative posts which were not immediately filled.

The general Assembly was held alongside a national Quantity Surveyors conference dubbed "mapping the future". A wide range of topics were covered from marketing, practice, management, fees, dispute resolution and others. I was proud to see "our very own" Professor Alfred



AAQS General Assembly Meeting Pretoria 2014.

Talukhaba, formerly of the University of Nairobi, as one of the key seminar organizers. My conclusion was that the Southern Africa quantity surveyor experiences challenges similar to the

ones that we do here. A series of activities are planned by AAQS and I urge our professional organizations IQSK and AAK to participate fully and help grow Quantity Surveyor profession in Africa.



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(iii) Roller	(vii) Floor cutters
(iv) Track Shovel	(ix) Concrete mixers
(iv) Cranes	





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# Pollution in the construction industry: The main pollutants

*The poisonous substances range from carcinogens (e.g. rock wool and cadmium, and irritating products (e.g. epoxy and ammonia) to extremely poisonous matter (e.g. Thallium and mercury).*



**QS Jasan Wanyoike**  
Quantity Surveyor

efficient machinery in the industry and to be more conscious of our construction processes that use fossil fuels.

## Electromagnetic radiation

Whereas few building products are known to themselves have dangerous radiation levels in construction, most materials can contribute to the amount of nuclear powered energy used in their production. This radiation poses great risks to both the environment and humans exposed to it, albeit the many countermeasures that have progressed in this field. It is expected that in 2022, the first nuclear electricity plant will be commissioned in Kenya.

## Encroachment of the physical environment and dereliction

With every building that opts to use concrete or masonry, derelict land is created and laid bare. It is evident that most environmental degradations result from the extraction of raw materials.

Whereas these are the main pollutants, the awareness of the pollutants by the construction industry is paramount in ensuring that we can implement measures to reduce the damage we are already doing to our environment and in moving towards the sustainable future for future generations.

detrimental to the ozone layer since scientists defined them. According to the Intergovernmental Panel on Climatic Change of the United Nations, we need to reduce the carbon dioxide emissions by at least 60-70% in order to counteract this effect. This means we need to use fuel

*“ A special type of this fiberglass reinforced concrete was used to clad the iconic Soccer City stadium (pictured) in Johannesburg. ”*



A Stone Quarry in Kenya.

# Successful partnership practice

Edited by Portia Ajayo

The Architectural Association of Kenya (AAK) held a seminar in May this year whose theme was “Successful Partnership, Innovations in Building Technology, Materials and Emerging Construction Technology”. QS Kimani Mathu, a partner at Mathu and Gichuri Associates, was one of the main speakers at the event and he addressed the topic of “Successful Partnership Practice”. The following are some of the highlights from his presentation which shed light on professional practice partnerships.

A partnership may be defined as a contractual relationship between two or more persons carrying on a joint business venture with a view to profit, each incurring liability for losses and the right to share in the profits. The main idea behind a partnership is that it creates synergy: the partnering entities produce a greater effect working together than the sum of their individual effects. Qs. Mathu outlined the following as some of the factors to consider when forming a partnership.

## Legal/Statutory requirements

Partners are required to register the partnership and have a partnership deed which bears the name of the partnership, the partners' names, the type of business to be conducted, the capital contribution of the partners and the prescribed systems for running the business; for instance the procedure to be followed when winding up and dissolving the partnership. The partners also need to put in place structures for the remittance of taxes and management of risk amongst others, for example getting professional indemnity for the partners.

## General considerations

There should be a clear agreement on how the income/profits will be shared, unlimited liability of partners, the obligations of the partners, resignation procedure, how to break up the partnership and when to do so; whether it will be upon mutual agreement, when the number of partners falls below two or

when a court order to that effect is issued. Agreeing on these matters at the onset reduces the chances of disputes arising between the partners later on.

It is important that the partners have a common vision for the business, so as to avoid unnecessary strain and tension in the course of running the business. In addition to this, sharing core values and professional ethics and having a wide range of skills, competencies / capacity, business acumen and positive character traits between the partners is an added advantage to the business.

It is not advisable for partners to be clones of one another, lead the same lifestyle or for them to compete with each other as this lowers the overall productivity of the partnership. As mentioned before, the goal of a partnership is to create synergy; otherwise the individuals are better off running separate ventures individually.

*“ The main idea behind a partnership is that it creates synergy: the partnering entities produce a greater effect working together than the sum of their individual effects. Qs. Mathu outlined the following as some of the factors to consider when forming a partnership. ”*

## Investment

Partners should consider and agree on the ventures to invest in as a partnership and also as individuals. Investing as a partnership has the obvious benefits of increasing the capital base of the business and thus creating even more room for growth. Investing individually provides cushioning for the partners during retirement or in case of dissolution of the partnership.

Caution should however be taken to ensure that the investments ventured into do not have an adverse effect on the partnership. It would not be advisable, for example, for a partner to run another business full time. This compromises the

partner's commitment to the partnership and increases the risk of break-up.

## Succession Planning

It is important to have an employment policy that should also outline when and how to take on new partners and the factors to be considered when signing on new partners. In line with this, there needs to be in place a retirement policy that offers retiring partners a soft landing. For instance the retired partner could continue offering consultancy services to the partnership for an agreed length of time after his or her retirement.

## New Business and Marketing

The partners need to create a brand for their partnership that will make it stand out through time and attract clients. The partners should have a clear marketing strategy and combine their personal contacts to create a working network for the partnership. They may also consider

other professional avenues that are open to them to venture into such as Project Management, Procurement Management and Total Facilities Management among others.

As the wise men said, two heads are better than one and having a partner to complement your strengths and make up for your weaknesses will definitely go a long way in helping you achieve your goals and make an impact in the community and society as a whole.

*The article is based on a presentation made by QS Kimani Mathu during a seminar hosted by the Architectural Association of Kenya (Quantity Surveyors' Chapter) in May 2014.*



## MoU SIGNING BETWEEN IQSK AND RICS



Qs. David Gaitho(IPC), Qs. Andrew Mandere (Chairman) and RICS representatives, Mr. Mark Walley(Managing Directors, EMEA) and Dr. Tom Sean Tompkins (the Chief Executive Officer) signing the MoU between IQSK and RICS.



Mr. Mark Walley presenting the signed MoU to IQSK Chairman Qs. Andrew Mandere.

## IQSK EXHIBITION AT ADD GROUNDS, NAIROBI UNIVERSITY ON 19th & 20th SEPTEMBER 2014



- 1: Group photo for participants.
- 2: Arch. Erastus Obonyo, of UON during the opening of the exhibition.
- 3: Participants during the Exhibition.

## IQSK PROFESSIONAL EXCELLENCE AWARDS NOMINATION AT THE SECRETARIAT



- 1: A group photo for the organizing committee and the panelists.
- 2: Mr. Felix Okatch hands over the nomination report to IQSK Chairman.
- 3: Panelists briefs the organizing committee of the nominations.



IQSK Press conference held on 5th November 2014 at Hilton Hotel.

## IQSK ONE DAY SEMINAR HELD ON 29th NOVEMBER 2014 AT THE INTERCONTINENTAL HOTEL, NAIROBI.



- 1: IQSK Chairman addressing participants.
- 2: Participants follows seminar proceedings.
- 3: Mrs. Winnie Manyara, the Executive Director Housing Finance foundation gives a key note address.
- 4: The Works Secretary, Qs. Nyakiongora , the Chief Guest during the Seminar.
- 5: Qs. Charles Sikuku, Ministry of Land, Housing & Urban.
- 6: Miss Roshin of Crown Paints gives a presentation.
- 7: Rose Kiendi, the Pricpal Revenue Officer KRA gives a Presentation.
- 8: Mr. Samson Maundu, Parliamentary Counsel office of the Attorney General & Department of Justice gives a presentation.
- 9: Dr. Gachao Kiuna the CEO Transcentury Limited gives a presentation.
- 10: Miss Fridah Mburu, Business Consultant gives a presentation.
- 11: Qs. Fervent Thumbi one of the rapporteurs gives final remarks.
- 12: Presentation of certificate to participants.

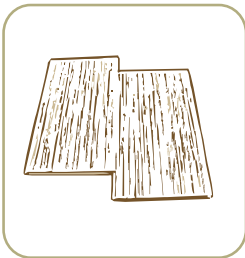


# WOOD BASED PANEL PRODUCTS, CUT TO SIZE READY-TO-ASSEMBLE PANEL COMPONENTS & RELATED FURNITURE FITTINGS

## PANELS



PARTICLEBOARD / MDF



FLOORING



DOORS



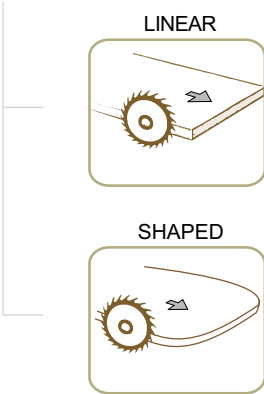
WORKTOPS



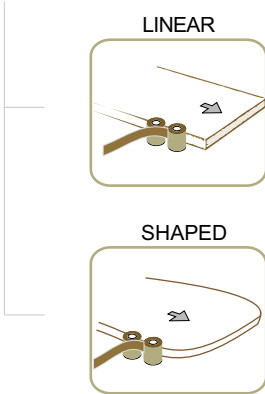
3D LAMINATED MDF

## COMPONENTS

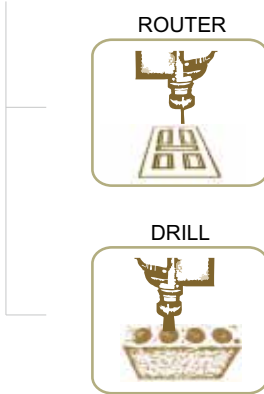
### CUTTING



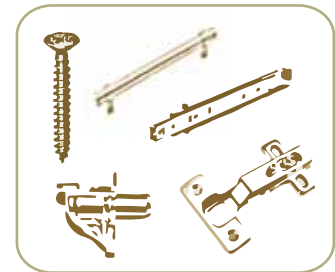
### EDGING



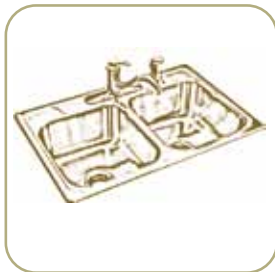
### CNC MACHINING



## FITTINGS



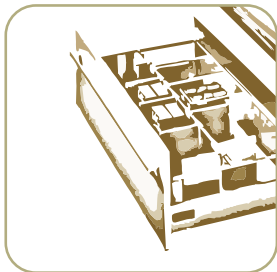
FURNITURE FITTINGS



SINKS



EDGE BANDING



KITCHEN STORAGE

## QUANTITY SURVEYORS GUIDE FOR PG BISON RAW MATERIAL COSTS

PG Bison is a raw material and ready-to-assemble component supplier to the furniture and construction industry only and does not offer finished furniture products or site installation services to the market. The rates indicated are for raw materials only. The rates do not include costs of converting PG Bison raw materials into a finished furniture product. Costs of manufacturing, fabricating and installing furniture are the responsibility of the furniture manufacturer or contractor.

			NBI AREA	MSA AREA	KSM AREA
DESCRIPTION	BRAND	UNIT	Kshs	Kshs	Kshs
WOOD BASED PANELS					
6mm plain particleboard	PG Bison - Bisonbord	SM	400	390	440
9mm plain particleboard	PG Bison - Bisonbord	SM	520	510	570
12mm plain particleboard	PG Bison - Bisonbord	SM	660	640	730
16mm plain particleboard	PG Bison - Bisonbord	SM	820	790	900
18mm plain particleboard	PG Bison - Bisonbord	SM	900	870	990
25mm plain particleboard	PG Bison - Bisonbord	SM	1,300	1,250	1,430
6mm melamine faced particleboard	PG Bison - Bisonbord	SM	900	890	990
9mm melamine faced particleboard	PG Bison - Melawood	SM	1,080	1,070	1,200
16mm melamine faced particleboard	PG Bison - Melawood	SM	1,510	1,490	160
18mm melamine faced particleboard	PG Bison - Melawood	SM	1,630	1,600	1,800
18mm melamine faced particleboard	PG Bison - Egger	SM	1,850	1,820	1,950
25mm melamine faced particleboard	PG Bison - Melawood	SM	2,100	2,050	2,310
3mm plain MDF	PG Bison - Supawood	SM	350	340	380
12mm plain MDF	PG Bison - Supawood	SM	990	970	1,100
16mm plain MDF	PG Bison - Supawood	SM	1,200	1,170	1,320
18mm plain MDF	PG Bison - Supawood	SM	1,300	1,270	1,430
3mm printed MDF backers	PG Bison - Melamatched	SM	500	490	550
12mm melamine faced MDF	PG Bison - Melawood	SM	1,300	1,280	1,430
18mm melamine faced MDF	PG Bison - Melawood	SM	1,770	1,740	1,950
32mm formica kitchen counter top	PG Bison - Formica Lifeseal	SM	4,500	4,950	4,950
18mm 3D laminated MDF for cabinet door frontals and panelling	PG Bison - Pressform	SM	8,500	8,500	8,500
INTERNAL DOORS					
Plain MDF door (without frame)	PG Bison - Portal	NO	4,000	4,000	4,400
Sapele veneer door (without frame)	PG Bison - Portal	NO	5,600	5,600	6,100
3D laminated MDF door with frame	PG Bison - Portal	NO	27,500	27,500	27,900

EDGE BANDING / LIPPING					
22mm width x 0.4mm thick PVC	PG Bison - Flexline	LM	35	35	40
22mm width x 1.2mm thick PVC	PG Bison - Flexline	LM	45	45	50
22mm width x 2.0mm thick PVC	PG Bison - Flexline	LM	75	75	85
28mm width x 2.0mm thick PVC	PG Bison - Flexline	LM	100	100	115
50mm width x 2.0mm thick PVC	PG Bison - Flexline	LM	200	200	230
22mm width x 0.4mm oak veneer	PG Bison - Flexline	LM	50	50	60
22mm width x 0.4mm mahogany veneer	PG Bison - Flexline	LM	50	50	60

LAMINATE FLOORING					
8mm laminate flooring including underlay - Far East	PG Bison - Dekkolam	SM	1,500	1,500	1,650
8mm laminate flooring including underlay - Europe	PG Bison - Krono Floor	SM	2,700	2,700	2,900
70mm high laminate skirting board - Far East	PG Bison - Dekkolam	LM	450	450	500
70mm high laminate skirting board - Europe	PG Bison - Krono Floor	LM	600	600	700

			NBI AREA	MSA AREA	KSM AREA
DESCRIPTION	BRAND	UNIT	Kshs	Kshs	Kshs
FURNITURE FITTINGS					
500mm econo white drawer slides	PG Bison - Kinetic	NO	190	190	200
450mm econo white drawer slides	PG Bison - Kinetic	NO	170	170	190
400mm econo white drawer slides	PG Bison - Kinetic	NO	155	155	170
500mm full extension drawer slides	PG Bison - Kinetic	NO	600	600	650
450mm full extension drawer slides	PG Bison - Kinetic	NO	570	570	630
400mm full extension drawer slides	PG Bison - Kinetic	NO	520	520	570
500mm full extension drawer slides with soft close	PG Bison - Kinetic	NO	850	850	900
450mm full extension drawer slides with soft close	PG Bison - Kinetic	NO	800	800	850
110 degree straight malpa hinge	PG Bison - Kinetic	NO	55	55	60
45 degree straight malpa hinge	PG Bison - Kinetic	NO	125	125	135
135 degree straight malpa hinge	PG Bison - Kinetic	NO	165	165	180
165 degree straight malpa hinge	PG Bison - Kinetic	NO	220	220	240
105 degree straight malpa hinge with soft close	PG Bison - Kinetic	NO	125	125	140
25mm x 3 meter wardrobe hanging rails with supports	PG Bison - Kinetic	NO	1,500	1,500	1,600
3.5 x 12mm particleboard screws	PG Bison - Kinetic	NO	1	1	1
3.5 x 16mm particleboard screws	PG Bison - Kinetic	NO	1	1	1
4.0 x 25mm particleboard screws	PG Bison - Kinetic	NO	1	1	1
4.0 x 30mm particleboard screws	PG Bison - Kinetic	NO	1	1	1
4.0 x 35mm particleboard screws	PG Bison - Kinetic	NO	1	1	1
4.0 x 40mm particleboard screws	PG Bison - Kinetic	NO	1	1	1
4.0 x 45mm particleboard screws	PG Bison - Kinetic	NO	2	2	2
4.0 x 50mm particleboard screws	PG Bison - Kinetic	NO	2	2	2
4.0 x 60mm particleboard screws	PG Bison - Kinetic	NO	2	2	3
96mm cabinet handles	PG Bison - Kinetic	NO	175	175	190
128mm cabinet handles	PG Bison - Kinetic	NO	240	240	260
160mm cabinet handles	PG Bison - Kinetic	NO	280	280	300
192mm cabinet handles	PG Bison - Kinetic	NO	400	400	440
256mm cabinet handles	PG Bison - Kinetic	NO	490	490	540
300mm cabinet handles	PG Bison - Kinetic	NO	525	525	580
488mm cabinet handles	PG Bison - Kinetic	NO	600	600	650
32mm diameter cabinet knobs	PG Bison - Kinetic	NO	130	130	140
Shelf studs / supports	PG Bison - Kinetic	NO	10	10	12
500mm full extension soft close runners - movento	PG Bison - Blum	NO	4,500	4,500	4,700
500mm box system soft close runners - antaro	PG Bison - Blum	NO	5,500	5,500	5,800
500mm box system soft close runners with high gallery rails - antaro	PG Bison - Blum	NO	7,000	7,000	7,400
110 degree soft close malpa hinge - cliptop blumotion	PG Bison - Blum	NO	500	500	550
110 degree malpa hinge - cliptop	PG Bison - Blum	NO	300	300	330
110 degree malpa hinge - modul	PG Bison - Blum	NO	100	100	110

INSET KITCHEN SINKS					
Single bowl, single drain	PG Bison - Kinetic	NO	10,000	10,000	11,000
Double bowl, single drain	PG Bison - Kinetic	NO	18,000	18,000	19,800
Double bowl, double drain	PG Bison - Kinetic	NO	20,000	20,000	22,000
Two and a half bowl, single drain	PG Bison - Kinetic	NO	21,000	21,000	23,100

Prices are subject to change without notice. Prices are subject to and inclusive of 16% VAT



# Green architecture: Towards sustainable construction

*To reduce these pollutants and their effects, there is urgent need for experts in the construction industry to come up with innovative solutions. Green architecture is one of those innovative solutions.*



**Ike Sande**

2nd year Student Bachelor of Quantity Surveying at the Technical University of Kenya

Don't sweep it under the rug! Global warming! Pollution! Environmental degradation! What are the solutions to these? Where are the solutions? Who should implement them? When will they be implemented? How should they be implemented? Why should they be implemented? Ever stepped into a newly-constructed facility and wondered why your throat got sore and your eyes experienced a burning feeling? These are usually the effects of common pollutants inside our spaces: at home, in the office, at school.

To reduce these pollutants and their effects, there is urgent need for experts in the construction industry to come up with innovative solutions. Green architecture is one of those innovative solutions. Building and road construction (and activities related to them, such as materials fabrication) can contribute greatly to environmental pollution if not undertaken in an appropriate way.

As professionals in the construction industry, we need to ask ourselves some tough questions: how do we design our industrial and residential chimneys to rectify on pollution? How do we apply the recycling of waste materials? Do we incorporate this measures in new developments? Do we recommend to our clients sustainable energy solutions for their investments?

*“Green architecture saves on operational costs starting the very first day of construction.”*



An example of a 'green' city: Namba Parks, Japan.

Green architecture is an approach to construction that not only minimises the harmful effects of construction on human health, but also protects our environment. The 'green' designs aim at safeguarding natural resources by choosing eco-friendly

construction materials and construction practices.

This can be achieved through the use of:

1. Ventilation systems designed for efficient heating and cooling;
2. Energy-efficient light emitters and appliances;
3. Alternative power sources such as solar and wind;
4. Recycled architectural and construction salvage material;
5. Non-synthetic, non-toxic materials and locally obtained wood and stones;
6. Louvers or light shelves to allow in sunlight during the cold season and keep it out when it is hot;
7. Planned landscapes to maximise on the available solar energy.

Investment in green architecture will reap big rewards now and for years to come. But what exactly are the benefits of green buildings?

**1. Lower costs:** - Green architecture saves on operational costs starting the very first day of construction.

**2. Improved productivity:** - a number of studies have shown that the occupants of 'green' buildings are usually healthier, more comfortable and more productive. Such buildings are also less associated with health problems because of the design of the ventilation systems and use of non-toxic materials.

**3. Green buildings have a higher market value:** - both residential and commercial buildings attract a higher resale value if they have sustainable design components.

The idea of ecological design is to ensure that our actions and decisions today do not inhibit the opportunities of future generations. This can be framed in the context of a conscious approach to energy and ecological conservation in the design of the built environment.

## Sadolin



Michael Thiong'o a professional artist painting the partners logos on the graffiti wall.



The crowd that was present during the celebration day



Mukuru Talent Development members



The graffiti wall



Janet Kanini Ikua N-Soko Property Show, Peter Mulei, Jamil Virjee and Mihira Patel of Sadolin Paints (E.A) LTD

## Sadolin Paints Coloured The World Of Mukuru Talent Development

Sadolin Paints believes in adding happiness to people's lives through colour. As part of their CSR initiatives, Sadolin Paints carried out a three day project to paint the Mukuru Talent Development Hall, in the informal settlement of Viwandani, Lunga Lunga.

The teams involved in this CSR project were professional painters (including women who graduated through Sadolin Paints specialized Painter's Training Programme), Members from the community based organization of Mukuru Talent Development (MTD) as well as some staff from Sadolin Paints. MTD showed off their artistic skills using graffiti at the entrance which demonstrated the unity amongst the partners. The painting of the new hall created a brighter and better ambiance for MTD to carry out their various social and extra curricular activities, with the aim of empowering the youth of Viwandani.

To commemorate the joint efforts of the partners, a celebration day took place on Friday the 31st of October 2014. Those involved included Umande Trust, Oxfam, The Architectural Association of Kenya, The Nairobi City County and PrinceCam Media. The day was filled with lots of laughter, dancing and pride, which was evidence that happiness was spreading all around and Sadolin Coloured the World of MTD!

Sadolin

Colour Your World



sadolineapaints



# NCA Contractors training report

## “Contractors Technical Development”

**Qs Jedida W. Muchoki**

It gives me great pleasure to write about the ongoing National Construction Authority (NCA) Contractors' pilot training, which started in June 2014 and ended in September 2014. These are exciting times in the construction industry because unknown to many, there is a silent revolution taking place engineered by the NCA. The NCA Act of 2011 Section 5(1) gives the Authority a broad mandate of overseeing the construction industry and coordinating its development, training 'contractors and construction site supervisors and skilled construction workers' being one of its many objects. As young as NCA is, its presence has started being felt.

NCA deemed it noble to involve stakeholders in the construction industry in coming up with the training content including JKUAT, UoN, NITA, AAK, IQSK, KIBHT, KFMB, IEK, Ministry of Education, DOSH, Office of the Attorney General and KEWI amongst others. Having participated in developing the training content I can report that the following two broad categories were agreed on; namely Management training and Technical training.

### Management training topics

Site organization; Site management; Site operation; Construction procurement; Preparation of bids; Pertinent provisions of the basic contract documents; Construction finance and management; Entrepreneurship; basic principles of a company structure including issues of company registration; why and importance of a company being statutory compliant; Emerging business trends like (joint ventures, public private partnership).

### Technical training topics

Design process (drawings and specifications); Quality control and assurance of materials and construction at execution level; Alternative construction materials; Emerging trends in sustainability

and technology; Plant tools and equipment; Safety and health. The participants were also sensitized about the NCA draft 'code of conduct and ethics for the construction industry' and the need to ensure that the works they were executing are registered with the NCA.

This pilot training is mainly geared towards small and medium size contractors (NCA 4 to NCA 8) where men and women who never reached class 8, but are willing to learn, can participate. Since the pilot training started, NCA has been able to train people across Kenya in Kitui, Nairobi, Mombasa, Kisumu, Isiolo, Nyeri, Garissa, Nakuru, Kakamega, Eldoret and Lodwar.

*“ Since the pilot training started, NCA has been able to train people across Kenya in Kitui, Nairobi, Mombasa, Kisumu, Isiolo, Nyeri, Garissa, Nakuru, Kakamega, Eldoret and Lodwar.”*

These locations were selected such that the contractors from all the counties could attend. The NCA training in Kitui took place twice with the first training targeting already performing contractors, and the second, which was courtesy of a request by the county government of Kitui through the Governor, trained potential contractors and was dubbed the 'construction workers challenge'.

The second training was motivated by the Kitui county government's realization that when they invited bids from various wards, some wards had no NCA registered contractors. At the end of the challenge, the governor facilitated the accreditation of about 2000 trainees as certified construction workers. Nairobi's training

was geared towards women, youth and people living with disabilities.

After the training started the NCA regulations of 2013 were adopted by the National Assembly and gazetted. NCA used the regulations to conduct sting operations to all ongoing sites country wide, checking the minimum basic requirements and to vet the implementation of the theory training in the pilot trainings.

The pilot sting operation was at Kiambu County where the basic minimum checklist included: presence of a detailed site signboard, NCA registered contractor on site for any works above 5millions, use of approved works drawings, use of personal protective equipment, hoarding of site and appropriate site signs warning the public of the ongoing works.

Sites that did not meet the requirements were closed till the owner complied. Nakuru, Kakamega and Eldoret town have also had sting operations. Thus it is wise that all construction industry consultants, developers, contractors and citizens familiarize themselves with the NCA regulations for the benefit of all.

Feedback from the participants is important as it shows whether the trainings are beneficial or not. At the end of every training session, participants acknowledged that what they learnt would help them further their businesses. KIBHT have also reported receiving a lot of enquiries from contractors to have tailor-made trainings with a bias towards technical aspects and diploma courses on part time basis.

All the above shows the powerful impact that NCA in collaboration with the stakeholders' is having on the industry. Its vision is that through this, greater heights of professionalism will be expected in this industry. Optimistically NCA is headed to rewrite history in Kenya's construction industry, so let us offer our support where needed.

## IMPALA LAMINATED GLASS



Impala Laminated glass is the Ultimate glass that provides durability, high-performance and multi-functional benefits such as Safety, Security, Sound control, Solar energy performance, ultraviolet screening, Protection against Weather/Natural disaster and Design Versatility while at the same time preserves the aesthetic appearance of the glass.

Impala laminated glass exceeds the quality standards in today's market; our Glass is European origin, processed by state of the art European machinery, technology(Autoclave) and expertise which combines to ensure quality product with outstanding safety qualities.

For more than fifty years Impala glass Industries has prevailed as the leading supplier of laminated glass for high rise construction in Kenya and Its environs. We are certified by KEBS for all types of Laminated glass products; Safety, Anti-Bandit, Bullet Resistant, Curved laminated Architectural glass.

**Impala range of laminated glass products also include these specialist products:-**

**Impala Laminated Glass with Vanceva Coloured Interlayers** - these interlayers can be combined to produce over 1,000 transparent, translucent or opaque colour options with all the performance benefits of laminated glass to achieve a unique and stunning finish.

**Impala Super Lami with Super Laminat** - 100 times stiffer and 5 times stronger than traditional interlayers and produces a super strength glass for structural applications.

**Impala Laminated glass with Acoustic PVB interlayer** - Sound Reducing laminated glass

www.impala.co.ke

## IMPALA TOUGHENED GLASS

Impala Toughened glass carries the trade mark that spells safety, strength, high wind load resistant and thermal resistance in a variety of applications and a multitude of end uses.

Years of experience, skilled teamwork and customer satisfaction have earned us high reputation. Operating from purpose-built facilities, our Toughening plant is equipped with the best state of the art Tam Glass (Finland) Horizontal tempering furnace. We are dedicated to fulfilling the needs of today's challenging and ever changing market.

We are producing toughened glass with quality polish. Edges, Holes and off-cuts are done on European CNC Machines, Countersunk holes are made for spider fitting, facades and Shower cubical. Impala Toughened glass can be further laminated where extra safety is required.

All our toughened glass products are KEBS Certified and can be easily identified by our trademark

Our process oriented organization means stable processes, continuous improvements and thus, high quality products.

Glass that combines Esthetics and Functionality



*How can buildings protect us from stressful and intrusive noise yet provide a calm and seemingly natural environment?*

**Impala**  
**DOUBLE GLAZED UNITS**  
Achieve Excellent comfort in Homes, Offices, Airports, Hotels etc

Impala Double glazed units are the most suitable for every home or building because of the extra Heat and Sound insulation it offers.

Our DGU are manufactured exclusively using the special process; dehydrated Air or Argon gas that improves the thermal Insulation enclosed between two sheets of glass.

We have over 20 years of experience in supplying high quality double glazing

### Benefits of using Impala double glazed Units:

- Keeps warmth during winter
- Reduces Energy Cost
- Keeps Heat Out during Summer
- Conserve Energy and Reduces Emissions
- Improved Insulation
- Available in Various Types of glasses i.e Low-e, Laminated, Toughened glass e.t.c
- Reduces Condensation



**MANUFACTURERS OF:** Impala Laminated Glass, Impala Toughened Glass, Impala Tempered Laminat, Impala Anti-Bandit Glass, Impala Bullet Resistant Glass, Impala Curved Laminated Architectural Glass, Impala Vanceva Coloured Laminated Glass, Impala Shower Cubicles, Impala Frameless door Assemblies, Impala Double Glazed Units, Impala Sandblasted, Engraved Etched glass and Mirrors, Impala Quality Mirrors  
**Stockist of Sunergy, Low-e, Stopsol, Tinted, Coolite, Reflectasol, Sunguard, Reflective, Patterned and Decorative glasses**

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**ONE STOP SOLUTION FOR ALL YOUR GLASS NEEDS**



# QUANTITY SURVEYORS GUIDE FOR IMPALA GLASS PRODUCTS RATES



Impala Glass Industries Limited is the leading Glass processor in East Africa since 1967. Impala Glass industries takes pride in its growth alongside the growing African economy and continues to contribute to the new Age Africa with the goal to provide quality and cost effective glass products. Below are a few products with rates per square metre (**PSM**). All the rates are in Kenya Shillings and **inclusive of 16% VAT**.

## IMPALA TOUGHENED GLASS

### CLEAR IMPALA TUFF

	PSM
5MM	2552.00
6MM	2936.00
8MM	4352.00
10MM	5399.00
12MM	6431.00

### IMPALA TINTED TUFF

(Green/Blue/Bronze/Grey)

	PSM
4MM	3198.00
5MM	3600.00
6MM	4282.00
10MM	6885.00

### CURVED IMPALA TUFF

	PSM
4mm Clear/Tinted Curve Tuff	7165.00

### SOLAR CONTROL IMPALA TOUGHENED GLASS

AGC, Guardian, Saint Gobain, PPG

#### Impala Toughened Glass with

AGC STOPSOL Glass

Clear/Blue/Bronze/Green/Grey

	PSM
4mm Stopsol	4858.00
5mm Stopsol	6676.00
6mm Stopsol	7514.00

#### Impala Toughened Glass with

GUARDIAN HD Glass

Clear/Blue/Bronze/Green/Grey

	PSM
4mm HD	4194.00
5mm HD	5103.00
6mm HD	5767.00

#### Impala Toughened Glass with

AGC CLEAR LOW E

	PSM
4mm Low- e	8930.00

#### Impala Toughened Glass with

AGC SUNERGY Glass

Clear/Blue/Bronze/Green/Grey

	PSM
4mm Sunergy	6396.00
6mm Sunergy	8930.00
8mm Sunergy	11062.00

#### Impala Toughened Glass with

PPG REFLECTIVE SOLAR Glass

Clear/Blue/Bronze/Green/Grey

	PSM
4mm Reflective Solar	3321.00
5mm Reflective Solar	3932.00
6mm Reflective Solar	4753.00

#### Impala Toughened Glass with

SAINT GOBAIN REFLECTASOL Glass

Clear/Blue/Bronze/Green/Grey

	PSM
4mm Reflectasol	3408.00
5mm Reflectasol	4194.00
6mm Reflectasol	5068.00

## IMPALA LAMINATED GLASS WITH PVB INTERLAYER

### IMPALA CLEAR SAFETY GLASS

	PSM
6mm Laminated Glass(3+3)	2534.00
8mm Laminated Glass (4+4)	3233.00

### IMPALA CLEAR ANTI-BANDIT

	PSM
10mm Anti-Bandit (5+5)	3670.00
12mm Anti-Bandit(6+6)	4596.00
12mm Anti-Bandit (4+4+4)	5889.00
15mm Anti-Bandit (5+5+5)	6676.00
18mm Anti-Bandit (6+6+6)	7392.00
20mm Anti-Bandit(10+10)	8406.00

### IMPALA BULLET RESISTANT

	PSM
27mm Bullet-Resistant	14242.00
32mm Bullet-Resistant	20725.00

### IMPALA TEMPERED LAMINATED

	PSM
10mm(5mm clr tuff + clear pvb + 5mm clr Tuff)	10712.00
12mm (6mm clr tuff + clear pvb + 6mm clr Tuff)	11831.00
20mm (10mm clr tuff + clear pvb + 10mm clr Tuff)	16741.00

### IMPALA OBSCURE LAMINATED

(Clear Glass + White pvb + Clear Glass )

(Clear Glass + Black pvb + Clear Glass )

	PSM
8mm	5505.00

### IMPALA TINTED LAMINATED GLASS

Red Rose/Violet/Jade Green/Yellow

	PSM
6mm {3mmClearGlass + Colored PVB + 3mmClear Glass}	2884.00
8mm {4mmClearGlass + Colored PVB + 4mmClear Glass}	3208.00

### IMPALA LIGHT TINTED LAMINATED

	PSM
6mm {3mm Clear Glass + Tinted PVB + 3mmClear Glass}	3799.00
8mm {4mm Clear Glass + Tinted PVB + 4mmClear Glass}	4112.00
10mm{5mm Clear Glass + Tinted PVB + 5mmClear Glass}	4692.00
12mm{6mm Clear Glass + Tinted PVB + 6mmClear Glass}	5230.00

### IMPALA DARK TINTED LAMINATED

Blue/Bronze/Green/Grey

	PSM
8mm {4mmTinted Glass + Clear PVB + 4mmTinted Glass}	4498.00
10mm{5mmTinted Glass + Clear PVB + 5mmTinted Glass}	5811.00
12mm{6mmTinted Glass + Clear PVB + 6mmTinted Glass}	6576.00

### SOLAR CONTROL IMPALA LAMINATED GLASS

AGC, Guardian, Saint Gobain, PPG

#### Impala Laminated Glass with AGC Stopsol Glass

Clear/Blue/Bronze/Green/Grey

	PSM
4mm Stopsol + 4mm Clear	5610.00
5mm Stopsol + 4mm Clear	5645.00
6mm Stopsol + 4mm Clear	7286.00

#### Impala Laminated Glass with AGC Sunergy Glass

Clear/Blue/Bronze/Green/Grey

	PSM
4mm Sunergy + 4mm Clear	7059.00
5mm Sunergy + 4mm Clear	7340.00
6mm Sunergy + 4mm Clear	7654.00

#### Impala Laminated Glass with

GUARDIAN HD Glass

Clear/Blue/Bronze/Green/Grey

	PSM
3mm HD + 3mm Clear	3862.00
4mm HD + 4mm Clear	4212.00
5mm HD + 5mm Clear	4614.00

#### Impala Laminated Glass with

AGC CLEAR LOW E

	PSM
4mm Low e + 4mm Clear	5819.00

#### Impala Laminated Glass with

PPG REFLECTIVE SOLAR Glass

Clear/Blue/Bronze/Green/Grey

	PSM
4mm Reflective Solar + 4mm Clear	5610.00
5mm Reflective Solar + 5mm Clear	7147.00
6mm Reflective Solar + 4mm Clear	7286.00

#### Impala Laminated Glass with

SAINT GOBAIN REFLECTASOL Glass

Clear/Blue/Bronze/Green/Grey

	PSM
4mm Reflectasol + 4mm Clear	5068.00
5mm Reflectasol + 5mm Clear	5522.00
6mm Reflectasol + 4mm Clear	6012.00

## IMPALA INSULATED GLASS

### IMPALA DOUBLE GLAZED UNITS

With Clear Glass

	PSM
4mm Clear +12mm Spacer + 4mm Clear	4579.00
5mm Clear +12mm Spacer + 5mm Clear	5138.00
6mm Clear +12mm Spacer + 6mm Clear	5767.00

### IMPALA DOUBLE GLAZED UNITS

With Clear and Tinted Glass

	PSM
4mm Clear +12mm Spacer + 4mmTinted	4579.00
5mm Clear +12mm Spacer + 5mm Tinted	5138.00
6mm Clear +12mm Spacer + 6mm Tinted	5767.00

### IMPALA DOUBLE GLAZED UNITS

With Solar Control Glass

Clear/Blue/Bronze/Green/Grey

	PSM
5mm Stopsol +12mm Spacer + 4mm Clear Ordinary	7251.00
5mm Sunguard +12mm Spacer + 4mm Clear Ordinary	7935.00
5mm Low e +12mm Spacer + 4mm Clear Ordinary	5767.00

### CLEAR IMPALA MIRRORS C/E

	PSM
3mm	1049.00
4mm	1311.00
5mm	1538.00
6mm	1748.00

## IMPALA QUALITY MIRRORS

## CURRENT CONSTRUCTION COSTS IN KENYA

### CONTRACTORS AVERAGE ALL-IN-RATES AND COST PER SQUARE METRE - DEC 2014

- The prices hereunder are average prices in the cosmopolitan cities of Nairobi, Mombasa and Kisumu and should be adjusted with reference to specific site conditions.
- Prices in remote areas of Kenya are generally higher.
- The general prices are based on rates obtained for mass housing and low rise office blocks.
- A developer should consult a Quantity Surveyor for applicable rates in estimating for a particular project due to various site conditions that influence construction rates.
- The Institute of Quantity Surveyors of Kenya, its Council and the Publisher shall not be responsible for any error in the rates published herein or for any damage or loss whatsoever resulting therefrom or for any reliance thereon the rates.

**Note: The prices are INCLUSIVE of 16% VAT.**

		NAIROBI AREA	MOMBASA AREA	KISUMU AREA
DESCRIPTION	UNIT	Kshs	Kshs.	Kshs.
<b>EARTHWORKS</b>				
<b>Excavations</b>				
Site clearance	SM	100	100	100
Excavate over site(150mm deep)	SM	100	100	90
Bulk excavations (manual)	CM	300	250	250
Bulk excavations (mechanical)	CM	540	520	580
Trenches/hole/reduce levels excavations	CM	300	250	250
Extra over for hard rock (class I)	CM	1,800	1,720	2,160
Extra over for hard rock (class II)	CM	960	910	1,080
Extra over for soft rock	CM	600	580	660
Load and cart away from site to Local Authority dumping sites	CM	350	350	320
<b>Fillings</b>				
Return, fill and ram around foundations	CM	130	130	110
50 mm Sand filling (blinding)	SM	100	120	130
Hardcore filling under floor slabs	CM	980	980	850
Chemical anti-termite treatment with 10 years guarantee	SM	300	300	260
<b>CONCRETE</b>				
<b>Mass concrete (Foundations &amp; external works)</b>				
Concrete 1:4:8	CM	7,500	7,920	8,250
Concrete 1:3:6	CM	9,000	9,240	9,900
Reinforced concrete (substructures & superstructures)				
Concrete 1:2:4 (class 20/20)	CM	12,540	12,980	12,980
Concrete 1:1.5:3 (class 25/20)	CM	13,970	15,400	15,730
Concrete 1:1:2 (class 30/20)	CM	15,180	16,500	16,720
<b>FORMWORK</b>				
<b>Rough formwork to:</b>				
Sides of walls	SM	500	500	700
Sides of columns	SM	500	500	700
Soffits of suspended solid slabs	SM	500	500	700
Sides and soffits of beams	SM	500	500	700
Sides of circular walls	SM	580	600	700
Smooth formwork				
Extra over for smooth formwork	SM	300	300	300
<b>REINFORCEMENT</b>				
<b>Mild Steel reinforcement - round bars</b>				
6mm Diameter	KG	140	135	145
8mm Diameter	KG	140	135	145
Mild Steel reinforcement -square twisted high tensile bars				
8mm Diameter	KG	150	145	155
10 mm Ditto	KG	150	145	155
12mm Ditto	KG	150	145	155



		NAIROBI AREA	MOMBASA AREA	KISUMU AREA
DESCRIPTION	UNIT	Kshs	Kshs.	Kshs.
16mm Ditto	KG	150	145	155
20mm Ditto	KG	150	145	155
25mm Ditto	KG	150	145	155
32mm Ditto	KG	150	145	155
<b>Weld mesh</b>				
Mesh reinforcement A142	SM	410	450	450
<b>WALLING</b>				
<b>Natural quarry stone walling</b>				
100 mm Thick	SM	1,200	1,800	1,800
150 mm Ditto	SM	1,300	2,050	2,050
200 mm Ditto	SM		2,200	2,200
Extra over stone walling for chisel dressing on one side	SM	190	210	210
Bonding ties	NO	30	30	30
<b>Machine dressed "Ruiru" natural stone walling (Nairobi Only)</b>				
100 mm Thick	SM	1,500	2,050	2,050
150 mm Ditto	SM	1,600	2,200	2,200
200 mm Ditto	SM	1,800	2,500	2,500
<b>Solid concrete block walling</b>				
100 mm Thick	SM	1,200	1,300	1,300
150 mm Ditto	SM	1,900	2,000	2,000
200 mm Ditto	SM	2,300	2,400	2,400
<b>Hollow concrete block walling</b>				
100 mm Thick	SM	1,200	1,300	1,300
150 mm Ditto	SM	1,300	1,500	1,400
200 mm Ditto	SM	1,700	1,800	1,700
<b>Brickwork</b>				
100mm Bricks partition (Walling)	SM	1,000	1,400	1,100
150mm Ditto	SM	1,200	1,700	1,300
200mm Ditto	SM	1,500	2,100	1,600
<b>Partitions</b>				
50mm Stramit plain board	SM	2,400	3,600	2,900
Ditto but covered with vinyl clothing	SM	4,800	7,200	5,300
Ditto but mahogany veneer covered	SM	5,600	8,400	5,900
<b>WATER PROOFING</b>				
<b>3 ply bituminous damp proof course :-</b>				
100 mm Wide	LM	80	100	90
150 mm Ditto	LM	100	100	100
200 mm Ditto	LM	100	200	100
500 Gauge polythene damp proof membrane	SM	100	100	100
<b>Basement and flat roofs waterproofing</b>				
Masterseal basement waterproofing	SM	2,100	2,300	2,200
Vandex basement waterproofing	SM	2,100	2,300	2,200
Penetron basement waterproofing	SM	1,900	2,100	2,000
20mm Thick mastic asphalt tanking to walls	SM	2,700	3,000	2,900
32mm Thick ditto to basement floors	SM	2,900	3,200	3,100
EPDM Rubber for flat roofs	SM	4,000	4,300	4,200
<b>ROOF COVERINGS</b>				
<b>Concrete roofing tiles including timber battens</b>				
Double roman low pitch over 22.50 (red colour) tiles	SM	1,200	1,300	1,400
Ridge tile to match	LM	200	300	300
Chicken wire	SM	200	200	200
Coffee tray wire	SM	300	300	400
1000 gauge polythene underfelt	SM	100	100	100
<b>Clay roofing tiles including timber battens</b>				

**CONTRACTORS AVERAGE ALL-IN-RATES AND COST PER SQUARE METRE - DEC 2014**

		NAIROBI AREA	MOMBASA AREA	KISUMU AREA
DESCRIPTION	UNIT	Kshs	Kshs.	Kshs.
"Mangalore" tiles (Size 250x400mm)	SM	1,000	1,000	1,100
Ridge tile to match	LM	240	250	280
Roman tiles (Size 150x375 mm)	SM	1,000	1,100	1,200
Brosley tiles (Size 225x250 mm)	SM	1,700	1,700	1,900
<b>Sheet roofing</b>				
Resincot, ITS gauge 26 roofing sheets	SM	1,900	2,000	2,200
Ditto gauge 24	SM	2,200	2,300	2,500
Standard ridge gauge 26	LM	420	440	480
Standard gutters gauge 26	LM	390	410	450
GCI sheet roofing gauge 24	SM	800	840	930
Ditto standard ridge gauge 24	LM	580		
Gauge 24 sand coated steel sheet tiles including timber battens	SM	2900		
Ditto ridge and hip caps	LM	900		
<b>CARPENTRY AND JOINERY</b>				
<b>100mmx50mm Wrot Prime grade Timber</b>				
Mvule	LM	2,200	2,300	2,500
Mahogany	LM	1,900	2,000	2,200
Camphor	LM	1,900	2,000	2,200
Cedar	LM	1,700	1,800	2,000
Cypress	LM	590	610	680
Pine	LM	480	500	550
<b>Timber doors</b>				
45mm Solid core flush door size 900 x 2000mm with lipping	NO	4,500	4,800	5,400
Ditto but faced with mahogany veneer on both sides	NO	7,500	8,000	9,000
Ordinary semi-solid flush door size 900 x 2000mm with lipping	NO	3,900	4,000	4,400
Ditto but faced with mahogany	NO	6,000	6,500	7,200
Hardwood panel door size 800 x 2000mm high (mahogany)	NO	18,100	18,800	20,000
Framed, ledged and braced door size 800 x 2000mm (cypress)	NO	8,300	8,600	9,500
Cypress door frames size 100 x 50mm	LM	410	440	480
Ditto 150 x 50mm	LM	630	680	730
Hardwood door frames size 100 x 50mm	LM	1,240	1,380	1,500
<b>Blockboards</b>				
25 mm Thick blockboard	SM	1,500	1,600	1,700
Ditto mahogany veneered on one side	SM	2,500	2,700	3,000
Ditto mahogany veneered on two sides	SM	3,800	4,000	4,400
6mm Plywood	SM	600	700	700
1.6 mm Plain colour "formica" sheeting	SM	700	800	800
Ditto but scratch proof	SM	1,100	1,200	1,300
18 mm MDF boards	SM	1,800	1,900	2,100
3 mm Thick hardboard	SM	300	300	300
6 mm Thick hardboard	SM	500	700	500
<b>METAL WORK</b>				
<b>Mild steel doors and windows (heavy duty sections)</b>				
External doors complete with ironmongery	SM	9,500	9,800	10,900
Casement windows	SM	5,400	5,900	6,400
<b>Burglar proofing</b>				
Burglar proofing bars 25 x 6 mm flats	SM	2,500	2,600	3,000
<b>Aluminium windows and doors</b>				
Aluminium sliding windows glazed with 6mm clear glass (2200mmx210mm)	SM	8,500	7,000	9,000
Fixed Aluminium windows ditto	SM	9,000	6,900	9,500
Aluminium doors glazed with 6mm clear glass (900mmx2500mm)	SM	12,000	11,100	12,500



DESCRIPTION	UNIT	NAIROBI AREA Kshs	MOMBASA AREA Kshs.	KISUMU AREA Kshs.
<b>IRONMONGERY</b>				
<b>Union specification (Aluminium)</b>				
100 mm Pressed steel butt hinges	PR	200	220	110
3- Lever mortice lock	NO	3,500	3,300	2,900
2- Lever mortice lock	NO	2,200	2,800	2,000
Door closer as Union ref 8850	NO	6,100	8,300	6,900
Female and male signs	NO	1,100	1,300	1,300
150 mm Heavy duty pull handle	NO	500	610	500
Rubber door stop	NO	110	110	90
Indicator bolt	NO	1,500	1,400	2,500
100 Long Tower bolts	NO	110	170	120
<b>Brassware</b>				
Window stay/fastener	NO	200	240	170
Door lever handle set	NO	1,600	1,800	1,600
Tower bolt 100mm long	NO	200	200	190
Flash bolt 100mm long	NO	420	390	390
100mm Butt hinges	PR	330	330	170
Hat and coat hook	NO	280	280	250
Drawer/Cupboard door handles	NO	280	280	330
50mm Diameter Knobs	NO	170	220	220
Cupboard door locks	NO	390	330	280
<b>STRUCTURAL STEELWORK</b>				
<b>Framed steel work</b>				
Roof trusses	KG	340	310	340
<b>Unframed steel work</b>				
25 x 25 x 3mm Angles	LM	370	350	390
50 x 50 x 4mm Angles	LM	790	760	860
75 x 75 x 10mm Ditto	LM	1,550	1,430	1,660
76 x 38mm Channel	LM	1,080	960	1,190
100 x 50 x 2mm Z purlins (14 gauge)	LM	1,140	1,010	1,260
150 x 50 x 2mm Ditto	LM	1,320	1,090	1,430
50 x 25 x 3mm Rectangular hollow section	LM	800	750	860
75 x 50 x 3mm Ditto	LM	1,660	1,550	2,000
100 x 50 x 3mm Ditto	LM	2,000	1,770	2,340
25 x 25 x 3mm Square hollow section	LM	520	490	580
50 x 50 x 4mm Ditto	LM	1,770	1,660	2,120
75 x 75 x 6mm Ditto	LM	3,940	3,600	4,620
100 x 100 x 3mm Ditto	LM	2,800	2,460	2,860
<b>FINISHES</b>				
<b>Wall finishes</b>				
12 mm Cement and sand render	SM	320	350	380
20 mm Washed terrazzo to walls	SM	1,400	1,450	1,450
12 mm Two -coat plaster	SM	300	300	400
330 x 250 x 6 mm White glazed wall tiles	SM	1,300	1,300	1,400
Ditto but coloured tiles	SM	1,500	1,500	1,500
600 x 600 x 8mm Thick coloured granito wall tiles	SM	3,250	3,250	3,450
300 x 600 x 10mm Thick marble wall tiles	SM	12,500	12,500	13,000
<b>Floor finishes</b>				
38 mm Thick cement sand screed	SM	430	460	480
40 mm Thick polished terrazzo paving	SM	1,400	1,400	1,500
Plastic dividing strip	LM	40	60	40
Carborundum non- slip insert	LM	100	110	130
1.6 mm Thick Vinyl asbestos floor tiles (PVC)	SM	600	600	650
2.0 mm thick Ditto	SM	800	850	850

**CONTRACTORS AVERAGE ALL-IN-RATES AND COST PER SQUARE METRE - DEC 2014**

DESCRIPTION	UNIT	NAIROBI AREA Kshs	MOMBASA AREA Kshs.	KISUMU AREA Kshs.
12 mm Thick coloured ceramic floor tile	SM	1,400	1,400	1,500
12 mm Thick terrazzo floor tile	SM	1,500	1,500	1,700
50mm Thick precast concrete paving slab on sand bed	SM	800	800	900
19mm Precast concrete floor tiles (plain)	SM	1,400	1,400	1,500
Ditto but coloured tiles	SM	1,700	1,700	1,800
300 x 600 x 10mm Thick granite floor tiles - Traditional colours	SM	13,000	13,000	14,000
<b>Brickwork finishes</b>				
65mm thick hand scratched facing bricks	SM	840	810	870
100 x 150mm Window cill	LM	190	280	200
100mm Decorative grilles (Pompei and vietri)	SM	880	970	900
150mm Ditto	SM	1,200	1,300	1,200
50mm thick fire bricks	SM	670	660	660
<b>Ceiling finishes</b>				
12 mm Thick "celotex" softboard ceiling	SM	870	660	880
13mm Thick chipboard	SM	750	500	770
5mm Thick machine splayed pyrotherm	SM	550	550	550
12mm Thick cement and lime plaster to concrete wall blocks	SM	400	425	450
Acoustic suspended ceiling	SM	2,300	1,700	2,500
<b>PLUMBING &amp; DRAINAGE</b>				
<b>Water Tanks</b>				
100 Gallons Mild steel water tank	NO	13,200	10,800	15,400
100 Gallons plastic water tank	NO	7,020	6,820	7,700
10 Gallons hot water cylinder Gauge 14	NO	4,290	3,850	4,180
50 Gallons ditto	NO	7,920	8,250	7,810
<b>PIPEWORK</b>				
<b>Galvanised Mild Steel Class B</b>				
12 mm Diameter	LM	220	190	260
20 mm Ditto	LM	330	220	330
25 mm Ditto	LM	440	390	470
32 mm Ditto	LM	440	460	610
40 mm Ditto	LM	550	620	700
<b>Plastic pipes</b>				
32mm Diameter waste grey plastic pipe	LM	110	60	120
40mm Ditto	LM	110	70	120
50mm Ditto	LM	110	80	120
100mm W.C. connecting bend	NO	990	940	1,050
110mm Diameter UPVC	LM	440	360	460
160mm Ditto	LM	990	950	1,050
<b>Sanitary Fittings</b>				
<b>Twyford's equivalent glazed ceramic:</b>				
W.C suite complete	NO	22,000	23,000	25,000
Wash hand basin complete	NO	15,000	17,000	18,000
Bath tub complete	NO	30,000	32,000	34,000
Bowl urinal complete with automatic cistern (1 Person)	NO	15,000	15,000	17,000
Recessed toilet paper roll holder	NO	4,300	3,850	4,500
Recessed soap dish	NO	4,300	3,850	4,600
Soap dispenser	NO	4,300	3,850	4,500
<b>Others</b>				
Brass toilet roll holder	NO	1,400	1,700	1,400
Brass soap dish	NO	1,400	1,700	1,300



		NAIROBI AREA	MOMBASA AREA	KISUMU AREA
DESCRIPTION	UNIT	Kshs	Kshs.	Kshs.
Brass brush & glass holder	NO	1,200	1,700	1,200
20mm Chromium plated hanging rail with end brackets	LM	440	390	510
Single bowl, single drainer kitchen sink	NO	3,400	4,400	3,140
Double bowl, double drainer ditto	NO	12,000	10,000	12,000
GLAZING				
4mm Clear sheet glass	SM	900	900	1,000
5 mm Clear sheet glass	SM	1,200	1,000	1,100
6 mm Obscured glass	SM	1,800	1,800	2,200
6mm Georgian wired glass	SM	9,000	9,000	8,500
6mm One way tinted & toughened glass	SM	8,400	8,000	7,500
6mm Thick perpex roofing glass	SM	5,500	5,500	6,500
6mm Float glass mirrors	SM	1,800	2,000	2,000
10mm Anti - bandit glass	SM	10,000	10,000	11,000
PAINTING				
First quality paint				
3 Coats super gloss oil paint to walls	SM	250	300	200
3 Coats polyurethane clear varnish to timber surfaces	SM	270	300	300
3 Coats plastic emulsion paint to walls	SM	250	300	200
3 Coats Bituminous paint	SM	250	200	200
Red oxide metal primer	SM	120	120	200
Tartaruga paint	SM	460	460	400
Pyrok finishes	SM	700	680	500
Marmoran finishes to walls	SM	2,500	2,400	2,300
Road marking paint - White colour	SM	350	340	300
Road marking paint - Yellow colour	SM	350	340	300
EXTERNAL WORKS (SITE WORKS)				
Fencing				
100mm Precast Concrete fencing post	LM	770	660	660
Chainlink 14G	SM	440	190	200
Barbed wire 12.5 G	LM	110	70	80
Road works				
Grade formation	SM	110	80	80
150mm Stone sub-base	SM	220	140	110
25mm Bitumen double seal	SM	660	500	440
50mm Premix bituminous surfacing	SM	990	660	650
60 mm Thick standard paving blocks ( Interlocking)	SM	1,700	1,600	1,600
80mm Thick heavy duty ditto	SM	2,100	2,000	2,100
250 x 125 mm P.C. kerb (straight)	LM	750	750	720
Ditto but curved	LM	850	850	820
125 x 100 mm P.C. channel (straight)	LM	650	650	650
Ditto but curved	LM	750	750	750
300 mm Diameter invert block	LM	2,600	2,500	2,400
Drain pipes				
100mm Diameter precast concrete drain pipe	LM	600	550	470
150mm Ditto	LM	920	700	780
305mm Ditto	LM	2,100	1,980	1,990
610mm Ditto	LM	5,400	5,000	5,100
Manhole covers				
450 x 600mm Manhole cover & frame light duty	NO	3,800	2,900	2,900
Ditto but medium duty	NO	7,600	6,900	6,900
Ditto but heavy duty	NO	15,900	16,000	16,300
Circular heavy duty manhole cover	NO	27,800	27,000	27,500

# Current Building Cost per M<sup>2</sup> in Central, Coast and Western Region December 2014

The rates shown below are general rates for building works excluding site works and care should be exercised in comparing costs of various buildings without considering other factors like location; specification of building materials; wall to floor ratio, floor to ceiling heights; site topography; type of joinery fitting and quality of Electrical and Mechanical installations. Rates in coastal towns like Mombasa are generally higher. The Institute of Quantity Surveyors of Kenya, it's Council and the publisher shall not be responsible for any errors in the rates published herein or for any damage or loss whatsoever resulting therefrom or for any reliance thereon in the m<sup>2</sup> rates.

ITEM	BUILDING TYPE	COST PER M <sup>2</sup> (EXCLUDING VAT)		
		CENTRAL REGION (NAIROBI) (Kshs.)	COASTAL REGION (MOMBASA) (Kshs.)	WESTERN REGION (KISUMU) (Kshs.)
A	Office Blocks			
	1) Low rise (Four Storey)	37,000.00	38,000.00	35,000.00
	2) High rise (With lifts)	46,000.00	47,000.00	44,000.00
B	Industrial Complex			
	3) Factories (Two storey)	31,000.00	29,000.00	32,000.00
	4) Warehouses (Ditto)	29,000.00	27,000.00	31,0 00.00
C	Retail Outlets			
	5) Small scale shopping centres	34,000.00	38,000.00	36,000.00
	6) Shopping mall	46,000.00	47,000.00	50,000.00
D	Residential			
	7) High class single units (Maisonettes)	41,000.00	44,000.00	44,000.00
	8) High class high rise flats	46,000.00	44,000.00	44,000.00
	9) Low cost, low rise flats	32,000.00	29,000.00	29,000.00
	10) Low cost, high rise flats	36,000.00	35,000.00	35,000.00
	11) Site & services schemes	18,000.00	20,000.00	20,000.00
E	Social Centres			
	12) Social clubs	31,000.00	33,000.00	32,000.00
	13) Churches (Double Volume Height)	42,000.00	41,000.00	41,000.00
	14) Community Centres	36,000.00	41,000.00	40,000.00
F	Hotels			
	15) Urban low rise	36,000.00	47,000.00	44,000.00
	16) Urban high rise (With lifts)	46,000.00	54,000.00	53,000.00
	17) Game lodges (Remote areas)	48,000.00	66,000.00	63,000.00
	18) Tented camps	24,000.00	38,000.00	37,000.00
G	Health facilities			
	19) Simple clinics	24,000.00	34,000.00	30,000.00
	20) Urban areas clinics	32,000.00	42,000.00	37,000.00
	21) Dispensaries (Rural areas)	22,000.00	26,000.00	25,000.00
	22) Large referral hospitals	60,500.00	65,500.00	64,500.00
H	Sports Facilities			
	23) Stadiums	42,000.00	48,000.00	47,000.00
	24) Simple arenas	34,000.00	39,000.00	38,000.00
	25) Theatres (Double volume height)	47,000.00	54,000.00	53,000.00
	26) Health clubs	51,000.00	59,000.00	57,000.00
	27) Playing fields	12,000.00	18,000.00	14,000.00





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Price List REF: 10/2014

### FLUCTUATIONS CLAUSE PRICE LIST FOR OCTOBER 2014

All prices include current V.A.T. rating and are valid as at 31<sup>st</sup> October 2014.

The prices are published by the Joint Building Council for operation of the Building Contract Fluctuation Clause and where these prices have been cited in the Contract Documents.

++01.	CEMENT IN BAGS	(1442Kg/M3)	21,780/= per cubic metre (15,103/= per ton) F.O.R. W.E.F. 01.05.2014. <b>Index =153.51</b>
02.	SAND		3,132/= per cubic metre delivered Nairobi Area (2,175/- per ton W.E.F 01.08.2011). <b>Index =245.25</b>
++03.	AGGREGATE		2,341/80 per cubic metre (1,624/= per ton) W.E.F. 01.05.2014. <b>Index = 183.49</b>
04.	STEEL REINFORCEMENT (TO B.S. 4449, 4461 AND 4483)		
	04.1 STOCK LENGTHS – EX-MILL (W.E.F. 01.11.2013)		
	04.1.1 16mm Mild Steel	84/68 per Kg.]	
	04.1.2 16mm High Tensile Steel	84/68 per Kg.]	<b>Index = 197.74(W)</b>
	04.2 FABRIC MESH REINFORCEMENT (CONTRACTS TENDERED FROM 16.12.91) (W.E.F. 01.11.2013)		
	(See Practice Note 91/05)		
	Type A 142 Mesh (2.22Kg/M2)	80/44 per Kg or 178/57 per M2.	<b>Index = 159.82</b>
++05.	STRUCTURAL STEEL (W.E.F 01.05.14) TO B.S. 1387 CONTRACTS TENDERED FROM 05.04.89		
	(See Practice No. 89/03)		
	05.1 Steel Hollow Sections	126/39 per Kg.]	
	05.2 Steel Angles	126/39 per Kg.]	<b>Index = 211.74</b>
06.	CONCRETE BLOCK (500 Lbs/Sq.in) (W.E.F. 30.09.10)		
	SOLID BLOCKS		
	06.1 3" x 9" x 18"	59/81 each]	
	06.2 4" x 9" x 18"	67/59 each]	
	06.3 6" x 9" x 18"	86/36 each]	
	06.4 9" x 9" x 18"	128/28 each]	
	06.5 90mm x 190mm x 390mm	60/29 each]	<b>Index = 140.19</b>
	06.6 140mm x 190mm x 390mm	71/91 each]	
	06.7 190mm x 190mm x 390mm	89/03 each]	
	06.8 240mm x 190mm x 390mm	128/28 each]	

ISSUED ON: 10.11.2014

CHAIRMAN – QS. H.G. Nyakundi, VICE CHAIRMAN – QS. H. K. Ngari, SECRETARY - Mr. D. L. Raghwani, TREASURER – ARCH. Rita Githuthu

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# THE JOINT BUILDING COUNCIL

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## NAIROBI ZONE

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Email:rita@rmarchitects.co.ke

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### HOLLOW BLOCKS

06.9	4" x 9" x 18"	61/16 each]	<b>Index = 122.09</b>
06.10	6" x 9" x 18"	66/63 each]	<b>Index = 122.09</b>
06.11	9" x 9" x 18"	114/45 each]	<b>Index = 122.09</b>
06.12	140mm x 190mm x 390mm	57/98 each]	<b>Index = 122.09</b>
06.13	190mm x 190mm x 390mm	65/38 each]	<b>Index = 122.09</b>
06.14	240mm x 190mm x 390mm	114/45 each]	<b>Index = 140.20</b>

### 07. BUILDING STONE (W.E.F. 01.08.2011) CONTRACTS TENDERED FROM 05.04.89 (See Practice Note 2011/01)

07.01	140mm x 190mm x 390mm	61/00 each ]	
07.02	190mm x 190mm x 390mm	62/00 each ]	<b>Index = 231/96(W)</b>

### ++08. CLAY PRODUCTS (W.E.F. 01.05.2014) (See Practice Note 91/04 and 03/2008)

08.1	90mm partition block	31,320/00	per 1000 x Ruaraka Factory ] <b>Index = 150.12</b>
08.2	100mm maxspan "	60,320/00	per 1000 x " " ] <b>Index = 222.26</b>
08.3	160mm " "	74,240/00	per 1000 x " " ] <b>Index = 251.75</b>
08.4	200mm " "	98,600/00	per 1000 x " " ] <b>Index = 245.78</b>
08.5	Mangalore roofing tiles	44,660/00	per 1000 x " " ] <b>Index = 236.99</b>

### 09. CORRUGATED ASBESTOS CEMENT SHEETING (13.06.2003) (See Practice Note NO.04/2008)

09.1	Super Seven 1.5 metres long	607/84 per sheet]	
09.2	Super Seven 2.0 metres long	812/00 per sheet]	
09.3	Super Seven 2.5 metres long	1,016/16 per sheet]	<b>Index = 98.31</b>
09.4	Super Seven 3.0 metres long	1,215/63 per sheet]	

### 10. G.C.I. SHEETING (W.E.F. 01.01.2010)(PRACTICE NOTE 89/02)

10.1	Corrugated Sheet 0.40mm thick	648.40 per M (762mm cover width) ] <b>Index = 214.55</b>
10.2	Corrugated Sheet 0.50mm thick	817.80 per M (762mm cover width) ] <b>Index = 210.21</b>

### 11. RESINCOT I.T.5 SHEETS (W.E.F. 22.02.2011)(CONTRACTS TENDERED FROM 05.04.89) ( See Practice Note NO 2011/02 )

11.1	I.T.5 Sheet 0.40mm thick	871/16 per M (685mm cover width)] <b>Index = 174.23</b>
11.2	I.T.5 Sheet 0.50mm thick	1091/56 per M (685mm cover width)] <b>Index = 174.56</b>

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## THE JOINT BUILDING COUNCIL

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### NAIROBI ZONE

#### Price List REF: 10/2014

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Vice Chairman	Tel. Tel.020-3877757, Fax.020-3876336 Email:hngari@ecostafrica.com
Secretary	Tel.020-3741778/637, Fax020-341473 Email:laxmanbhai@africaonline.co.ke.
Treasurer	Tel.020-2022211 Email:rita@rmarchitects.co.ke

#### 12. RESINCOT PLUS IT5 (0.4mm and 0.5mm ) (W.E.F 31.3.2011) ( CONTRACTS TENDERED FROM 05.04.89)

12.1	IT5 Sheet 0.4mm thick 1403/60 per M ( 685mm cover width)	<b>Index 121.00</b>
12.2	IT5 Sheet 0.5mm thick 1670/40 per M ( 685mm cover width )	<b>Index 118.00</b>

#### 13. VINYLEX FLOOR TILES (W.E.F. 01.06.2005)

13.1	300mm x 300mm tiles 1.6mm 501/12 per sq. metre]	<b>Index = 115.72</b>
13.2	300mm x 300mm tiles 2.0mm 626/40 per sq. metre]	<b>Index = 104.27</b>

#### 14. PVC (LG) DRAINPIPES TO B.S. 4514 (W.E.F. 01.06.2011)

14.1	110mm diameter 1,875 per six metre]	<b>Index = 439.96</b>
14.2	150mm diameter 3,000 per six metre]	<b>Index = 337.63</b>

#### ++15. P.V.C. PIPES (WASTE & SOIL) AND FITTING (W.E.F.01.02.2008) ( See Practice Note No 2014/2 )

15.1	110 mm diameter 1,700/00 per six metre]	<b>Index = 564.71</b>
15.2	150 mm diameter 3,700/00 per six metre]	<b>Index = 648.69</b>

#### ++16. GALVANISED MILD STEEL PIPES AND FITTINGS (W.E.F.01.12.12) ( See Practice Note No 2014/2 )

16.1	110 mm diameter 2,335/00 per metre]	<b>Index = 108.07</b>
16.2	150 mm diameter 3,836/00 per metre]	<b>Index = 135.60</b>

#### 17. TIMBER (W.E.F 01.03.13) (See Practice Note No. 88/02)

17.1	100 x 75mm Cypress	219/75 per M1]	<b>Index = 190.86</b>
17.2	100 x 75mm Mahogany + Mvule + Mninga	721/60 per M1]	<b>Index = 122.30</b>
17.3	Blockboard not exceeding 25mm thick	1013/89 per M2]	<b>Index = 189.13</b>

#### ++18. PAINT (W.E.F. 01.05.14)

18.1	Plastic Emulsion	2,603/- per 4 litres ex Factory]	<b>Index = 195.94</b>
18.2	Enamel Paint	2,862/80 per 4 litres ex Factory]	<b>Index = 177.70</b>

#### ++19. CONCRETE ROOFING TILES (W.E.F. 01.05.2014) (See Practice Note No. 91/01)

PRICE = 538/24 per M2 } **Index = 134/39**

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#### ++ 20. BITUMEN AND MASTIC ASPHALT (W.E.F. 01.12.2012) (See Practice Note No. 91/02, 91/03 and 2014/2)

20.1 Bitumen	11,360/00 per ton	<b>Index = 294.92</b>
20.2 Mastic Asphalt	49,366/12 per ton	<b>Index = 213.83</b>

#### 21. MONTHLY INTEREST RATE APPLICABLE TO DELAYED PAYMENTS (See Practice Note No.2000/01)

**1.5 PERCENT PER MONTH (W.E.F 01.01.2012)**

#### ++22. LABOUR (BASIC MINIMUM WAGE RATE PER NORMAL WORKING DAY MON. – SAT.)

	NAIROBI, MOMBASA AND KISUMU	The Area of all Municipalities, all towns and Urban Councils	All other Areas
<b>2013</b>	<b>Labourers Shs. 453.00</b>	<b>Shs. 448.00</b>	<b>Shs. 448.00</b>
<b>2014</b>	<b>Labourers Shs. 494.00</b>	<b>Shs. 488.00</b>	<b>Shs. 488.00</b>

In accordance with the Memorandum of Agreement between the Kenya Association of Building and Civil Engineering Contractors and the Kenya Building Construction and Allied Workers Union dated 10<sup>th</sup> September 2013 and registered by Industrial Court Ref **RCA No. 239 OF 2013 dated 30<sup>th</sup> October 2013**, the revised Basic Daily Rates with effect from **1<sup>st</sup> January 2013**, are as above. In assessing the overall percentage increase consideration has been given to Housing, Travel Allowance, N.S.S.F. Contribution, Annual Leave, Sick Leave with Pay and Medical treatment allowance, and the resultant increase to be applied to labour for the purpose of the Fluctuation Clause is assessed at **10.06 per cent for the year 2013 and 7.52 percent with effect from 1<sup>st</sup> January 2014.**

Labour content is evaluated as follows:

- At 25.00% of Builders work for jobs tendered prior to 31.12.1995.
- At 20.00% of Builders work for jobs tendered from 01.01.1996 to 31.03.1998.
- At 19.00% of Builders work for jobs tendered from 01.04.1998.

ISSUED ON: 10.11.2014

CHAIRMAN – QS. H.G. Nyakundi, VICE CHAIRMAN – QS. H. K. Ngari, SECRETARY - Mr. D. L. Raghvani, TREASURER – ARCH. Rita Githuthu

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Treasurer	Tel.020-2022211 Email:rita@rmarchitects.co.ke

Price List REF: 10/2014

## PRACTICE NOTES

### INDEXING (W.E.F. 13.06.2003)

PRICE INDEX 100.00

For new tenders effective 1<sup>ST</sup> MAY 2002, fluctuations shall be evaluated using indices.

See Practice Note No.2002/01.

### NO.01/2009 MATERIAL AND LABOUR CONSOLIDATED PRICE INDICES:

Practice Note No.B3 dealing with projects tendered after 1<sup>st</sup> May 2002 should be amended to read “For projects tendered after 1<sup>st</sup> May 2002, the new method of evaluating fluctuations using indices is recommended but the method using absolute prices can be applied as well. In all cases **ONLY ONE METHOD TO BE APPLICABLE TO PARTICULAR PROJECT**”.

### NO.2011/01 BUILDING STONE

With effect from 31<sup>st</sup> January 2011, the use of imperial units for the description of stone has been changed to metric. The index remains unchanged.

### NO. 2011/02 IT4 ROOFING SHEETS

IT4 Roofing sheets are no longer in production. Therefore the prices of IT5 will apply with effect from 31.1.2011.

### NO. 2011/03 BITUMEN (ITEM 20)

The correct price of Bitumen was Kshs. 95,120/00 and not 95/20.

### NO 2014/1 COMPUTATION OF LABOUR FLUCTUATIONS

The correct increase to be applied to labour for the purpose of the Fluctuation Clause is assessed at **10.06 AND NOT 18.2 per cent for the year 2013 and 7.52 AND NOT 7.51 percent with effect from 1<sup>st</sup> January 2014.**  
(See attached Practice Note No 2014/1)

### NO 2014/2 CONTRACTS ENTERED INTO BEFORE 30TH APRIL 2002

Contracts entered into on or before 30<sup>th</sup> April 2002 are deemed to have been concluded. The related prices and indices have been removed from this price list WEF 01.05.2014.

**NOTE** xx Denotes new items  
++ Denotes revised prices  
xxx Corrected items  
(w) Means weighted average

ISSUED ON: 10.11.2014

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## LIST OF PAID-UP MEMBERS AS AT 14th NOVEMBER 2014

CLASS OF MEMBERSHIP	IQSK NO.				
<b>A FELLOW MEMBERS</b>					
1 Prof. Qs. Sylvester M. Masu	3	69 Qs. Hannah Wambui Waithera	157	159 Qs. Thomas Koigi Kahuria	349
2 Qs. Onesimus M. Gichuri	5	70 Qs. Martin M. K. Wamae	161	160 Qs. Cyril Ojoo Arara	351
3 Qs. Kimani Mathu	6	71 Qs. Emmanuel M. Wamalwa	165	161 Hon.Qs. Mohamed Mohamud Ali	352
4 Qs. Moses A. Nyakiongora	12	72 Qs. Erastus Mwanjama Katani	171	162 Qs. Michael Githinji Wanjohi	354
6 Qs. Joseph Omariba Otuke	26	73 Qs. Charles Kinyanjui Maingi	173	163 Qs. Collins Otieno Aluga	355
7 Qs. Bramwell P. Kimokoti	27	74 Pro. Dr. Hezekiah Gichunge	176	164 Qs. David Ung'ai Nahinga	357
8 Qs. Antony Levitan	34	75 Qs. Michael Mbugua	177	165 Qs. Solomon D. Kabui Mokiri	358
9 Qs. Kishore Nayar	35	76 Qs. Lucas Akelo Adwera	178	166 Qs. Gabriel Pius K. Mwangi	361
10 Qs. Jacktone V. Hongo	41	77 Qs. Innocent I. O. Momanyi	179	167 Qs. Peter Muigai Njogu	366
12 Qs. David Mungai Njuguna	53	78 Qs. Susan Chepkorir	181	168 Qs. Elijah Mbogo Maina	369
14 Qs. Isabella Njeri Wachira	68	79 Qs. Silvester M. Mutharia	182	169 Qs. Irene Nabwire Machio	370
15 Qs. Festus Mukunda Litiku	83	80 Qs. Bashir H. Hajee	186	170 Qs. Simon Njoroge Ndung'u	374
16 Qs. Thomas Kimangu Murai	91	81 Qs. Aaron Muriithi Gitonga	193	171 Qs. Joseph Onyango Omondi	377
17 Qs. Norman Mururu	123	82 Qs. Francis Gatonga Kairu	194	172 Qs. Andrew Muchira Ngure	385
18 Qs. Stanley K. Murage	185	83 Qs. James Ouma Okaka	196	173 Qs. Austin Ngure Kamau	386
19 Qs. Adam Syngidura Marjan	252	84 Qs. James Maina Kamau	197	174 Qs. David Mwai Kogi	388
		85 Qs. Frank Patty Ndubi	198	175 Qs. Simon Ndung'u Ndumia	390
		86 Qs. Samuel Reuben Mainya	199	176 Qs. Francis Mindo Gitaka	392
		87 Qs. Peter Kariuki Kanyo	202	177 Qs. Daniel Gatenjwa Ng'ang'a	394
		88 Qs. Jane Wanjugu Gichuri	204	178 Qs. Peter Muchiri Ndung'u	395
		89 Qs. Tom Oketch	205	179 Qs. Ayub Wauna Owuor	396
		90 Qs. Nicholas M. Mutua	206	180 Qs. Denis Chek	397
		91 Qs. James Ogoda	207	181 Qs. Mary Theresa Odhiambo	398
		92 Qs. E. O. Odhiambo	208	182 Qs. Kennedy M. P. Mutwii	403
		93 Qs. Francis Mururi Munyua	211	183 Qs. M. Michubu Kobia	406
		94 Qs. Francis O. Ombura	212	184 Qs. Mary Waihtiegeni Waihenya	407
		95 Qs. Wilson G. Mwangi	213	185 Qs. Patriciah Nthambi Josiah	408
		96 Qs. Isaac M. Gitura	214	186 Qs. David Gidudi Choka	409
		97 Qs. David Kang'ara	216	187 Qs. Lawrence Omonyo	410
		98 Qs. John W. Kang'ethe	217	188 Qs. Elon Henry Sisye	411
		99 Qs. Doris W. Kariuki	218	189 Qs. Antony Githiri Kimani	418
		100 Qs. Bernard M. Mandere	220	190 Qs. Peter Njoroge Ngahu	421
		101 Qs. James N. Nyambane	221	191 Qs. Sammy Mwakisha Tola	429
		102 Qs. Ali M. Adam	222	192 Qs. David Karu Kang'ara	431
		103 Qs. Moses K. Kimani	227	193 Qs. Gabriel Muchoki	432
		104 Qs. Philip Muchungu	228	194 Qs. Rose Jematya Kotut	434
		105 Qs. Francis M. Kingori	229	195 Qs. Lincoln Njagi Ileri	439
		106 Qs. Micheal Munyao Mukosi	232	196 Qs. Patrick Mwenda Bucha	440
		107 Qs. Pauline Jemutai Olbara	235	197 Qs. Esther Wangari Macharia	441
		108 Qs. Gregory Murunga Chekata	241	198 Qs. Mbinda Kativini	445
		109 Qs. Samson Kirioba Maisiba	242	199 Qs. David Mathu Njuguna	446
		110 Qs. Paul Kamatu Ngugi	245	200 Qs. Titus Mwangi Macharia	448
		111 Qs. Charles Muita Kairu	247	201 Qs. Fredrick Ndaire Karua	449
		112 Qs. Robert Kanake Munya	249	202 Qs. Maureen Njeri Kinyanjui	450
		113 Qs. John O. Okerosi	253	203 Qs. Wilson Calistus Simiyu	452
		114 Qs. Peter S. Kariuki	255	204 Qs. David Waiganjo Kiraki	455
		115 Qs. Abednego O. Gwaya	256	205 Qs. Peter Mwangi Munderu	456
		116 Qs. William Murakaru Njogu	261	206 Qs. Robert Mwangi Ambuku	466
		117 Qs. Joel Gichimu Thailbiri	263	207 Qs. Cosmas Mutinda Musau	468
		118 Qs. Hon Moses N. Muihia	267	208 Qs. Bertrand Lubanga Ngaywa	469
		119 Qs. Julius K. Matu	268	209 Qs. Alex M. Makori Magembe	471
		120 Qs. Shadrack M. Mutumah	270	210 Qs. Joseph Ojwang Onyango	472
		121 Qs. Felix O. Oseki	273	211 Qs. Peter Njehu Kiruthi	474
		122 Qs. Micheal G. M. Ngina	274	212 Qs. Samuel Ngigi Waiganjo	475
		123 Qs. Samuel K. Kamau	275	213 Qs. Sylvester Onyango Oluoch	483
		124 Qs. David G. Mwaniki	277	214 Qs. Erick Wanjala Simiyu	485
		125 Qs. Mathenge K. Thuku	279	215 Qs. Adano Boru	487
		126 Qs. J. Kairu Maina	281	216 Qs. Walter Aggrey Odundo	490
		127 Qs. Jordan R. Opiyo	283	217 Qs. Ali Alamin Mandhry	491
		128 Qs. Donald O. C. Akoko	284	218 Qs. Lamon O. B. Ogweni	493
		129 Qs. Samuel N. Njoroge	285	219 Qs. David Maina Nguyo	499
		130 Qs. Philip M. Kande	286	220 Qs. Alphonse Nyagilo Okweto	501
		131 Qs. Bernard M. Muhia	287	221 Qs. Peter Okinyi	503
		132 Qs. Alfred O. Gayo	288	222 Qs. Michael K. Muiruri	504
		133 Qs. Eddieson O. Otieno	289	223 Qs. Robinson Mwangi Kariguh	505
		134 Qs. William Muchemi	293	224 Qs. Joseph Njau Kihui	507
		135 Qs. Ambrose K. Mwangi	296	225 Qs. Martin Mahira Muiruri	508
		136 Qs. Peter K. Miriti	300	226 Qs. Charles O. Gisenbe	514
		137 Qs. Michael Mathenge Wanyagi	305	227 Qs. Bernard Were Ogutu	517
		138 Qs. Haron G. Nyakundi	306	228 Qs. Brian Simiyu Barasa	523
		139 Qs. Fervent Kimani Thumbi	308	229 Qs. Desmond Muriithi Muriuki	524
		140 Qs. Beatrice N Wanjau	310	230 Qs. Hosea Kinyua	525
		141 Qs. Paul Musyoki Kimatu	312	231 Qs. Valerie Obura Odunga	537
		142 Qs. Fredrick N. Nyang'acha	313	232 Qs. Rose Nyambura Mwangi	538
		143 Qs. Philip Oduor Omondi	315	233 Qs. Samuel Mborothi Ntoiti	539
		144 Qs. Timothy Munene Nderitu	317	234 Qs. Pinto Nduse Kimuyu	540
		145 Qs. Olivia Sally Otieno	320	235 Qs. Jasan Wanyoike Njoroge	542
		146 Qs. Jennifer Nduku Musyimi	321	236 Qs. Philip Odep Kola	546
		147 Qs. Joseph Muriu Kibara	324	237 Qs. Kibet Kirui Komingoi	550
		148 Qs. George Kamau Ngure	326	238 Qs. Edgar Otachi Mokua	551
		149 Qs. Jedida Waguthii Muchoki	328	239 Qs. Esther Muthoni Githinji	554
		150 Qs. Michael Muthike Muriithi	330	240 Qs. Charles Mbugua Kamau	555
		151 Qs. Wilfred Muchoki Gitiche	332	241 Qs. Patrick Kinyua Mbogo	559
		152 Qs. Leah Nyambura Gathitu	334	242 Qs. Brian Kipkorir Toroitich	560
		153 Qs. Antony Wambua	335	243 Qs. Kenneth Mungai Ng'ang'a	561
		154 Qs. Mary Wachuka Gichuki	336	244 Qs. Lawrence Kinyua Mbijiwe	563
		155 Qs. Faith Njeri Kimani	338	245 Qs. Francis Muriungi Ndubai	564
		156 Qs. Alex Kisangau Mwita	340	246 Qs. Humphrey Khwatenge Silungi	565
		157 Qs. Alex Kamau	343	247 Qs. Peter Kamau Gathuru	566
		158 Qs. Diana Mumbua Musyoka	346	248 Qs. David Mwangi Kamau	567



LIST OF PAID-UP MEMBERS AS AT 14th NOVEMBER 2014

249	Qs. Fredrick Kiplangat Towett	568
250	Qs. Vincent Wafula Kuucha	569
251	Qs. Zacharia Wahome Ngacha	573
252	Qs. Sammy Joseph Nzyuko	574
253	Qs. Nelson Ondiek Mosota	577
254	Qs. Salesius Oriuga Ignatius	585
255	Qs. Maurice Oliang'a Ang'ila	589
256	Qs. Sam Apodo Owelle	590
257	Qs. Mark Otiende Ombwayo	594
258	Qs. Joram Ombisa Mweresa	595
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