

TIPS ON THE COST EFFECTIVE AND EXCELLENT BUILDING/ CONSTRUCTION AND PROJECT MANAGEMENT

Advisory: by Dr Luke Mwangi (oasis of wisdom consultants/ ark building
and construction consultants) 0722-738142

(Prepared to help church ministers in construction work)

Gift to---_____

Design stage

1. Take time to understand the whole vision of your function of the facility that you want to, so that all requirements are factored in at a design. List all the needs and the expectations that you need fulfilled in the project to help come up with MASTER PLAN. This avoids a lot of demolition, alteration at the construction that slows the works and bring loses in material and labor. DREAM AND DREAM AGAIN OVER THE PROJECT.
2. Design your facility with the help of qualified and EXPERIENCED architect/ Draught man/ Consultant team (structural engineers, quantity surveyors, electrical engineers , civil engineers etc) that who will help you to marry both the function and design component of your building.
3. Take time with the drawings first to verify them before constructing to ascertain that the drawings given certify your desires instead of advising and updating of major changes at construction.
4. Visiting similar facilities that already exists, viewing documentaries will sharpen a lay man who is not technical in evaluating concepts, designs, functions, decorations, applications, available material, new concepts that would add value to their facility.
5. Have the final design put in a professional way after a period of not less than 6 months of ACTIVE thought on the concept in a professional way of approval with local authorities and **also detail drawing** phasing out the facility for easy communication with other party of consultants (structural engineers , quantity surveyors, electrical engineers , civil engineers etc)

NB an outline drawing without details may not be helpful enough for construction. Section drawing done in large scale of sections/ elevation/ special areas will help in understanding the design in more details

6. Value/ quantity/ cost (BQs) are done to give you the estimates of the construction. You can also advice for it to be done in phases to avoid CONSOLIDATION which may not be useful. The BQ document can further be broken down into a SHOPPING LIST which is easier to understand for as lay man when **shopping and monitoring** the procurement of materials. E.g. *shopping list (practical BQs- instead of having cement in cubic meters of bags needed etc)*

7. After the cost (shopping list, BQs) are released with your understand of the **cash flow/ faith**. Phase out the implementation of the project.

Ideas---- *a big project can done in phases of completing one section first to commence the use of a facility instead of the whole project stagnating for a long time with no value. A big facility can be done in phases then other alterations done to suit the final purpose intended*

8. After you are satisfied with the design, approvals, and have understood your cash flow then seek for the appropriate contractor.

Selecting a contractor/ supervisor/ site manager

Options of association with the contractor/ supervisor/ site manager

- 1) Turnkey contract----- all inclusive contracts where they buy materials and construct at the same time.
- 2) Labour contract-----you buy/ source of the material as per shopping list/ BQs then he takes care of the construction workers.

Selection tips

- 1) Check for the project of similar magnitude that they have handled. (somebody may have constructed a residential house but may not handle a shopping mall, church etc). it is important to visit previous projects that they have handled before.
- 2) Check out for their faithfulness and interpersonal relationships with the previous client that they have worked for. Some operatives may be good to work but with so many problems such as IMPATIENT, BAD LANGUAGE, BUSY WITH OTHER THINGS, INCONSISTENCE, FULL OF UNBELIEF, CRAFTY, POOR MANAGERS, POOR MOTIVATORS (ALWAYS SACKING PEOPLE IN SITES), STRIVE, COVETOUS, THIEF'S. All these may affect your project targets and site tempo that will make your construction time stress full.

NB *wrong selection of the right technical team has led to many legal issues, disagreements, site flights, loses, project stagnation etc.*

Methods of selection

Selective--- interview a few people based on their records and assessments, or through referral of good report from other people who have finished projects

Open--- through media advertise for such works for people to tender for the projects and follow necessary procedures (**use appropriate legal tendering procedures**)

Important tips in relating to a contractor

- Never pay for any materials that have not been delivered in site.
- Never pay for jobs that have not been done, not even under any promise unless you plan to extend *charity*.
- Make sure that all construction details and phases, payment times, project durations, project specifications are clearly stipulated to avoid disputes. Use a lawyer and the team of consultants to come up with a TIGHT DOCUMENT.
- The contractor should be financially able to fund a particular phase of project before payment.

Procurement of materials

What to buy

The QUANTITIES AND QUALITIES specified by THE CONSULTANT TEAM. Verify also with other consultants to avoid OVER DESIGN OR UNDER DESIGN / UNDER ESTIMATE OR OVER ESTIMATE PREDICAMENT. At the source verify goods to avoid buying **counterfeit or substandard goods**

When to buy

- 1) You can buy material before as a way of saving (only be careful not to over flood the site especially where the site is small so that the project site is covered and no movements / also never begin to dump materials where there is no security otherwise as you dump you lose them.
- 2) During the construction sufficient for every construction phases as per shopping list / BQs provided

Off-loading should be strategic according to the **site management plan**

- Not far from construction site to require a lot of input in **site internal transportation**. These can be a time consuming and expensive affair.
- Not too near construction area to restrict movement and demand again relocation.
- Not pilling up together to block access to monitoring and demand separations again.

Where to buy

You must always keep in touch with the market place in your city / town and internationally to get ideal and value of your money. A wide knowledge of sources of various materials will **ALWAYS** put you a **NITCH** to get the best value of your money. It will also give you opportunity to be UPDATED WITH EVER CHANGING variety of building materials that will give you WIDER SPACE in selection of materials that will give your facility OPTIONS, TASTES, FUNCTIONS, ETC.

Tips that would help you in getting the best sources for your projects

- People who have or undertaken similar projects.
- Attending building / real estate exhibition
- Adventure shopping in your environment
- Discovering real source of items (factories, importers, quarries)
- Good report of sources/ supplies such as faithfulness, incentives (transport, replacements, keeping their words on quantities / qualities, viable payment procedure.

NB keep on checking for diversity of material sources even during construction. Avoid stagnation or sticking to one source to improve your bargains.

Tips on sources of material

- Cement --- In a big site cement can be supplied from the factory through silos instead of bags / locate factory agents or wholesalers.
- Hardware goods --- sheets, tiles, sanitary fittings / appliances, electrical etc, (factories, wholesalers / international markets (Dubai / China)
- Timber --- buy trees, ferry then split timber dealers near forests.
- Special finishes --- special finishes wholesalers.

Loading and transport

- Verify the right mode of transport to avoid breakages (costs / risks etc)
- Parking and loading well done.
- Inspection at loading to ensure quality and quantity.
- Checking of documents / invoice to determine details.
- Security of materials during transportation against theft or another site.
- Counter check system at off-loading points.
- Check the invoicing system.
- For a big project you can buy a truck to make savings on transport.

Site security and organization

Ensure good fencing of the site before dumping off the material.

- Materials off loading counter – check systems put in place.
- Site material inventory systems put in place.
- Stores and warehouses necessary.
- Good storage of material to facilitate easy monitoring at easy check.
- Systematic and categorical storage to avoid breakages during removal, loading and off loading.
- Daily inventory check, morning and evenings.
- Impromptu checks and visits,.

Enhancing productivity of workers

- Fundis / helpers / supervisors should observe reporting time agreed, a register at the gate to be signed can facilitate accountability so that there is no loss or stealing time.
- Weekly / daily job targets, performance guidelines systems should be instilled to as a bench mark to measure productivity of a group or individuals. E.g. No of blocks per fundi, area of plaster to lay, No of tiles / sheets to fix per day etc.
- Sometime targets can be given in advance a week or day before for planning.
- Site management and supervisors must keep people working avoiding much talking outside debates etc.
- Positive and negative motivation of human resource management can be applied at various times. Encouraging, appreciation, rebuking, correcting, firing etc.

EQUIPMENTS AND TOOLS

- For big projects some equipment to be used regularly can be bought instead of hiring. This is important both for **convenience and cost**. Such include wheelbarrows concrete mixers, spades, shovels, vibrators, cranes, excavators, drills etc. **Some will wear out in the sight and others can be sold if still functional after the construction.**
- Good daily inventory for monitoring safety
- Maintenance measures checked regularly(oiling, fueling, technical servicing schedules/precaution)
- Appropriate use of tools and machines for intended purpose maintained. This avoids breakages, maintains efficiency, speed, accuracy and avoids site accidents.

ACHIEVING TECHNICAL EXCELLENCE

- Recruit the right contractor/ supervisor/foreman/site managers.
- Regular site meetings of the client, consultants and technical team.
- Select a SHADOW TECHNICAL/ EXCELLENCE TEAM to monitor and counter check the working team. (even good operatives make mistakes or need over sights) Iron sharpens iron.
- Technical details and safeties from consultants MUST BE adhered to such as structural, electrical, civil work etc (ratios of cement, beam sizes, curing periods.
- JOINT TECHNICAL INSPECTIONS should be carried out at particular stages such as laying out, finishing of foundations, foundation walling/pillars, floor slabs, timbering, roofing's etc. THIS AVOIDS CONCEALING OR OVERIDING TECHNICAL MISTAKES that would affect the building technical strength and functions.
- Recruit 'Fundis' through **a performance system or good report**. Any fundi claiming to be good in something must be monitored in the first hour/ first day before being fully released to continue. Many self proclaimed FUNDIS have lead to lose of materials, poor quality work, and escalation of labor due to repeated jobs.

NB. People with an excellent spirit who are not necessarily TECHNICAL people can add value to check plumbness, straightness, landscaping, colours etc.

- At times, demonstration for various sensitive stages should be carried out to the supervisors **to raise the standard or pace** setting instead of assuming that people know and make mistakes that will always lead to demolishing or disputes of expectation.

WORK PLANNING

- Check whether/ Climatic seasons to ascertain various construction stages e.g don't dig foundation during rainy seasons.
- Give yourself practical targets to avoid rush that would compromise technically quality and available standards of construction.
- Come up with Work plan that indicates PARALLEL ACTIVITIES to assist in keep GOOD PACE of the project.
- Daily/ Weekly MONTHLY to work and budget projections should be closely monitored to avoid project mismanagement (e.g. no enough workers, equipment, money, Material on site for a specific day or operation.
- A SITE INSTRUCTION BOOK for all the consultant/ excellence teams that visit the site to avoid CONFLICT OF INSTRUCTIONS to technical working team
- Work Schedule Work Book available in the site office and Drawing for the counter Check during Visits.
- Workers motivation is crucial. Pay your workers in accordance to area standards and productivity. Keep your word on payment schedules agreed. Any changes should be communicated in advance and agreed to avoid SITE CONFLICTS packages are crucial (morning evening instruction meetings, prayers, gifts, lunches, tea, word of encouragement etc help in motivating workers and build a strong TEAM SPIRIT.
- The entire planning Keep the site clean and well organized

PAYMENT AND ACCOUNTING

- Carrying of cash to sites well organized and not traditional.
- Pay roll of laborers, Suppliers well counter checked with invoiced and ACTUAL SERVICES VERIFIED by a team to avoid networks of FRAUD.
- Proper receiving and keeping of receipts/ invoices/ Agreements for checks and balances, giving reports to financiers, inventories.

NEIGHBOURS RELATIONSHIP MANAGEMENT

Maintain good relationships with neighbors. A project done with a good will of neighbors enjoys security, logistics support, participation in resources, community participation, building of friendships and avoids time wastage through unnecessary disputes/ injunctions/ sanctions etc.

Inform them about the project before it begins through courtesy visits so that you don't look like an INTRUDER.

Understand and discuss their concerns e.g. silence hours, dusts, noises, cleanliness, traffic, security, privacy etc. and ensure them of your efforts and strategies and deal with each.

HOW TO RAISE FUNDS FOR CHURCH/ COMMUNITY PROJECT

- 1) Teach and take time to communicate the value of the project biblically, socially etc. Blessings of building a church/ charity. (I have very comprehensive teaching on the value and blessings of building God a house with 20 case studies that has helped many church members
- 2) Communicate the vision clearly so that people can own it through display of pictorial banners, drawings, models, project briefs, PowerPoint presentations etc.
- 3) Site visits for the partners, members and stakeholders to own the project
- 4) Communicate the needs of the project in form of money skill and machinery etc to structure for participation
- 5) Allow participation and package it through levels (platinum, Gold, Silver, Bronze, Iron) and let people stretch their faith as you pray and encourage them continually
- 6) You can have functions to receive the gifts (seed day, Site visits etc).
- 7) Communicate to them progress and praise reports. Even small victories still count in motivating people.
- 8) Appreciate those who are giving for what they have given in special ways through cards, S.M.S, before asking for more.
- 9) Do not allow pressure by avoiding big credits/loans. You may end up stressing partners/congregation and loose priorities.
- 10) Give achievable targets for the project so that you don't look to be failing all the time when targets are not met.
- 11) Give financial account of expenditure done for every phase to build trust and faithfulness.
- 12) Avoid to do open personal projects or other church projects that would make people think that you have lost the vision or diverted funds. If you are blessed in other ways, **COMMUNICATE THE SOURCE OF THE BLESSING**. Many projects have stalled as people react to changing of priorities and faithfulness of the leader.
- 13) Operate an open policy of finances where people can check up receipts, audit reports etc. A church member committee can also be set up to give account to others regularly.
- 14) Answer the questions that people would be having on various aspects, that means get feedback. (What are people's thoughts and comments at various times in the phases of the project?)
- 15) If you realize that people are exhausted, give them breaks. Give them new ideas of involving friends, doing functions that involve other people etc.
- 16) Ensure that excellence (good quality work) is maintained at every phase of the project so that people are encouraged to want to see the next phase.
- 17) Do not communicate every small crisis so that people may not have implications of mismanagement and that the project is failing.
- 18) Organize for prayer back-up since it is also a spiritual war-fare of building the Kingdom. In the days of Nehemiah, they built and watched.

SUPPORT THAT DR. LUKE MWANGI & COMPANY CAN GIVE IN YOUR PROJECT

1. Give Ideas on your design and be involved in drawing and making models, power points, movies, etc that can motivate people to own the project
2. Be part of the supervision TECHNICAL Team to attend planning meetings and visit sites regularly.
3. Be part of the EXCELLENCE team to attend planning meetings and visit sites regularly.
4. Motivate the church to give with the message that I have ministered in many churches with tremendous results BUILDING GOD AN ALTER
5. Help motivate and advice the church building committee.
6. Give advice on sources of materials, equipment and other machinery to cut down costs.
7. Assist in setting up check systems for procurement, site security, site organization etc. **OR ANY OTHER SUPPORT..**

MY BUILDING RESUME/PROFILE

- Managed several sites for my parents, the first was at the age of 13 years
- Trained in building and civil engineering for 4 years at Kenya Technical Teachers College
- Worked for Strathmore architects and was involved in design of Strathmore University Madaraka.
- Served as a project director for Dr. Wilfred Lai (design, supervision, construction management on office blocks, high school and primary school, restaurants, bridges, residential houses and the 30,000 seater sanctuary.
- Advisory in the construction of the 15,000 seater Redeemed Gospel church, Huruma sanctuary.
- Design of charity centers and homes.
- In 4 months designed, raised money, supervised and managed to finish a 1,500 seater glass sanctuary now finished in Kilimani Nairobi.
- Have been in the advisory of the construction of other 10 churches.
- Lectured in Building and civil Engineering for 6 years at Mombasa Technical Training Institute.

BEST WISHES IN YOUR FORTH COMING MEGA PROJECT.

WE REJOICE IN YOUR SUCCESS