• Profile: Mr Sharif Ahmedi
• North Manama Causeway
• Building Contracts
• Affordable Housing
Dear Members,

This issue of Al Mohandis Magazine should cover our news and activities up to January 2013 after we had a long break since the last issue of Al Mohandis.

I sincerely hope that we are back on track for publishing it quarterly after last year hiatus. Since last year issue, we had an Annual General Meeting assembly (AGM), with new Directors being appointed including your long served President who was nominated for the third term. I wish the new Board of Directors every success in their endeavors and assure you that, we are currently working on a medium term plan for the Society’s future development which I sincerely hope that we commence our work on the future expansion of BSE premises project.

BSE conducted various conferences, workshops and activities, since I have spoken to you last year through Al Mohandis. I am glad to report that the Society is progressing well despite all the hindrance faced during last year.

Looking ahead, we should see interesting program of events that gives value to BSE membership and fulfill the BSE objectives and goals. For this to achieve, I badly need all your support, please join the working committees to help in making this a reality.

Thank you as always for your on-going contribution and participation in our activities and special thanks to our event partners and sponsor companies that supported us during the last period to deliver our programs and conferences successfully raising Bahrain and BSE flags high.

Enjoy Reading this Latest issue of Al Mohandis Magazine,

Wish you all good health and prosperity.

Majed Al Gassab
President
Engineer

Sharif Ahmadi

The story begins at Al Hidayah Al Khaifiya School where Engineer Sharif Ahmadi completed his high school education in the science field. Immediately thereafter he pursued his college education by enrolling in the Gulf Technical College. He was one of the first batch to graduate where he received a Diploma in Electrical Engineering.

However, Engineer Sharif’s dreams and ambitions were much greater. He wanted to build a promising professional career through which his dreams to service his homeland could be fulfilled. His second educational destination was the United Kingdom to pursue further studies in Electrical Engineering. Thereafter he joined Bahrain Aluminium Company “ALBA” as part of the student scholarship program where he was enrolled in Derby University, the Midlands, United Kingdom where he graduated as an Electrical Engineer after completing four years study. This enabled him to join the British Society of Electrical Engineers.

Engineer Sharif recalls these years with much pride and endearment. Not only did he land prestigious academic qualifications, but also formed brochures with several Bahrain and Gulf nationals who were studying in Britain during the seventies, friendships that stood the test of time.

Engineer Sharif started his professional career in Aluminium Bahrain “ALBA” as an electrical engineer for three years, during which he amassed massive experience in the aluminum sector. This encouraged him to invest in the formation of the Aluminium Services Company in 1977 where he took the position of Managing Director. Through his skills and leadership, he developed the company and made it one of the best aluminum fabrication companies in Bahrain.

However, his ambitions did not stop there, and in 1981 he became one of the founders of Dar Al Khaili, Trading & Contracting Co., which today implements major construction projects throughout Bahrain. He also took part with friends in the formation of several industrial partnerships.

Engineer Sharif also held several prominent board directorships including Vice Chairman of Tamkeen, Managing Director of BALEXCO, member of the Executive Committee of Al Ahlia Insurance Company and a host of other companies. He is still a proactive board member of both Bahrain Family Leisure Company and Durrat Al Bahrain Resort Management Company.

He was an active member of the Bahrain Chamber of Commerce and Industry for more than 16 years where he served as an executive member on the Board of Directors for two successive periods of 8 years and also the Chairman of the Industrial Committee.

Engineer Sharif is regarded as one of the influential industrial leaders and his role was quite evident on several committees where he served as member, whether the committee was affiliated with the Ministry of Industry and Commerce or with a specific industrial council. He was one of the first founders of the Specific Council of the Industrial Sector in Bahrain, in addition to his contributions to the organization of several conferences in the industrial sector of the CCC Chambers of Commerce and Industry. He also attended several industrial conferences and events at both the national and regional levels.

Engineer Sharif is married and has been blessed with five children. Even with all his roles and responsibilities, Engineer Sharif makes it a point to dedicate time to spend with his family. He is proud of his commitment to his family time and ongoing communication with many of his friends. He is also known to spread love and laughter amongst his friends and family and looks forward to recreating their love and endearment.

Engineer Sharif confirms the concept that a fair and happy person cannot live in the absence of humanitarian principles that he applies in his professional and social life. His primary creed in life is loyalty and dedication in the performance of any job he is tasked with. The second creed that is close to his heart is that he places himself in the position of others in the event of any differences in points of view and opinions. As he upholds, I am a fairperson and I blame myself before finding faults with others. Every night before I sleep, I recall the events of the day. His late father was his role model and he learned a lot from him as he inculcated loyalty, fairness and integrity in his very soul.

Engineer Sharif is a strong believer in the importance of having friends in his life and does not forget the good deeds, knowledge and learning he gained from those who are older than him. He appreciates the same principle to his children and insists on sustained and continuous acquisition of knowledge and acquaintance with the experience of others in order to avoid committing the same mistakes over and over again.

He is full of hope that the engineering sector would commit to an honor charter for his noble profession and to keep at a distance from the seductions of life since the engineering profession touches people’s lives and interests.

Engineer Sharif’s hobbies include travelling and gaining knowledge of the cultures of other nations and acquainting himself with their communities. Since he is a director on many boards of directors it is imperative that he take interest in the issues of public concerns, which relate to the responsibilities of his office in order to boost and consolidate his role in them.

The advise he offers to those wishing to study engineering is for students to exercise patience and due diligence in the selection of the appropriate specialization at university and knowledge of the professional path which to pursue. In addition consideration must be taken of the extent of the nation’s and the labour markets need for the specialization. An incorrect choice will cause the student to miss out on many years of study and compromise creative abilities when he or she opts for a discipline that stifles creativity. He calls on Bahrain Society of Engineers to be active in familiarizing graduates through professional exhibitions and conferences with engineering disciplines and the extent of their conformity with labour market requirements.

Engineer Sharif underscores the fact that community service is a duty of all. He dedicates great amounts of his time to this Trading & Contracting Co. and he also supports other public utilities societies and clubs, in addition to volunteer work for the less fortunate. Engineer Sharif maintains “A person must benefit others generously and without any limitations or reciprocal expectations and must think of others before thinking of himself”. A person must also pay back to his country and citizens as happiness comes from benefiting others’.
North Manama Causeway
The tip of the iceberg

1.0 Introduction
Historically speaking, the North Manama Causeway (NMC) is the largest roads and bridges project the Ministry of Works has ever undertaken. Although not necessarily the most complex in terms of interface with other utilities and entities, this project is the largest in terms of cost, length of viaduct and number of precast concrete segments.

This project is also a prelude for opening the north of Manama for further development and investment. Despite its size, the NMC is a serious step toward developing the network north of Bahrain. It forms a platform for the Busaiteen Link, which is a future project linking Manama with Busaiteen - Muharraq, and eventually linking with Dry Docks Highway from the north side to form a ring road around Manama Island. NMC will also be the launching point of the North Manama Ring Road, a causeway which will link NMC with Al Farooq Interchange (Central Market interchange).

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>Number of piles</td>
<td>1092</td>
</tr>
<tr>
<td>Number of Piers</td>
<td>163</td>
</tr>
<tr>
<td>Number of Segments</td>
<td>24/40</td>
</tr>
<tr>
<td>Bridge Deck</td>
<td>1/2 km / time 4 decks</td>
</tr>
<tr>
<td>New Highway construction</td>
<td>2.4 km</td>
</tr>
<tr>
<td>Highway reconstruction</td>
<td>1.63 km</td>
</tr>
</tbody>
</table>

Table 1.0 Main Quantities

2.0 The Project Scope
The project is divided into three sections for project construction management purposes. Each section represents a milestone in the overall program. The philosophy behind this positioning is to break the project into areas for progress monitoring purposes, and to have sectional completions so that the benefits of the section are reaped earlier than the overall completion.

This phasing is very important to manage public opinion and end user recognition and appreciation of the project. The project is three years in duration, and with major interfaces with road users, businesses, governmental and other entities, it is expected that the project execution will generate frustration and inconvenience for prolonged periods, which can reflect badly on the performing organization. The early commissioning of completed sections makes the service available to users, and minimizes the project impact on stakeholders.

3.0 The Challenges
There are major challenges and risks which the project team had to address during the planning, and during the implementation of the works. The challenges influenced the contracting strategy, the design, the team selection and communications plan in the project. The key challenges are highlighted below.

3.1 Environmental Management Plan (EPM)
The recent years witnessed a greater emphasis on the environment due to the growing role of civil environmental organizations and rising public awareness. The project interfaces with the marine environment in its entire scope, both during the reclamation contract, and the highways and bridges construction. Originally, an Environmental Impact Assessment (EIA) was conducted, which identified assessed and analyzed the impact of the project on the environment. The study came up with a number of recommendations as mitigation measures, the adherence to which was mandatory.

The EPM is a system that addresses two issues. It takes the observations and recommendations of the EIA into the implementation phase to ensure that the appropriate measures are taken to mitigate the negative impact on the environment. Secondly, it draws a practical approach to address pollution risks on site. They include preventive measures and control monitors of the prevailing conditions surrounding the project environment. The EPM is monitored by an independent consultant so as to ensure professional, unbiased and adequate control.

3.2 Fluctuation Clause
The period during which the project was tendered was considered a very turbulent and unstable. The global credit crunch had repercussions reaching all corners of the world, thus creating instability in material prices. The construction industry was very volatile, and had undergone rapid change in the cost of basic construction materials.

The instability of the market was a major risk which bidders would assess and put a price against it in their submissions. It can also be a serious risk for Clients for not being able to predict the magnitude of fluctuation and hence the costs associated with this.

In order to incentivize contractors to submit realistic bids, the Fluctuation Clause was introduced. It was designed to protect the Client, and ensure that the contractor gets his dues in case the prices fluctuate beyond a certain percentage.

3.3 Stakeholder and risk management
Due to the project's operational impact the project was expected to have within its environment, a risk and stakeholders management exercise was conducted before the implementation phase was started. The purpose of this exercise was to identify critical risks and stakeholders' needs and expectations early on to minimize their impact on the project programme, and to capture the stakeholders' needs and expectations and identify the communications requirements.

An earlier similar exercise, during the planning and design phase, was conducted to capture key stakeholder requirements, mainly Service Authorities, in order to incorporate them in the main project. The risk profile of the project was then re-assessed in light of the inputs.

3.4 Segmental Construction
One of the sophisticated features of the project is the utilization of advanced construction technologies. This is the second project, after Ise Town Main Gate Interchange, the Ministry of Works adopted the segmental precast bridge construction. The method was selected to build the long, bridge viaduct for a number of reasons. Two of which are:

- This method has the benefit of producing high quality durable concrete sections, which is highly recommended for a Culf climate where concrete deterioration has been a major issue for a number of decades, especially at this location close to the sea.

- The viaducts cross a navigation channel and goes over very congested highways. This method minimizes, or sometimes eliminates the need for traffic diversion. Hence reduce inconvenience to public during construction.

4.0 Conclusion
Despite its challenges, the excellent planning and coordination, the assembly of a dedicated team and the engagement of top management for their support, follow-up and coordination with key stakeholders, this project is already becoming a success story before its completion.

From a benefits management perspective, the project deliverables will ensure recognition by stakeholders, and the public inconvenience is properly managed through early commissioning of completed parts.

It is expected that this project will reduce congestions at two key junctions, which form the Manama gate, namely the Diplomat Hotel and Crown Plaza Hotel Junctions. It will enhance safety.

The NMC and Mina Salman interchange, which is currently also under construction, are part of a strategy to upgrade Al Fateh Highway to an urban motorway standard road.

Although the project is the largest in the history of the Roads in Bahrain, it is only the tip of an iceberg compared to what is planned beyond it for the development of the North Manama Master Plan.
Building Contracts

Consultant (Engineer) Versus Contractors: Who is responsible?

By Bashir Mohammad Salih

(Legal Advisor of Ministry of Works)

As part of a series of weekly lectures organized by Bahrain Society of Engineers to update its members and interested parties on the latest developments in the engineering field in particular and other related sciences in general.

When one intends to build a building nowadays, he needs to communicate his intention to an Engineer together with his requirements.

The following is a list of government building agreements as the Tender Law, the Financial Regulations of the Ministry of Finance, the Bahrain National Audit Court, and the Legislation & Legal Opinion Commission govern such agreements.

Engineers are selected by tender from amongst other tenderers if the owner is a Government Agency. The job is awarded to the successful tenderer who must submit a Performance Bond and a Professional Indemnity Insurance Policy and all other required guarantees.

Having done that, the Consultant has to sign a formal agreement containing all his obligations and liabilities as well as his entitlements for executing the task assigned to him. But, we do not have to worry about what to include in the Consultancy Contract every time a Consultant is approached on the condition that the Consultancy Contracts are new standard. You may select from the many standard Consultancy Contracts available in the market, the most famous of which are FIDIC and JCT. However, if one deals with the Government of Bahrain or one of its Agencies, he has to follow the Standard Conditions of Agreement prepared by the Ministry of Works and approved by all concerned Authorities, before the passing of these Standard Conditions JCT to some extent FIDIC conditions were heavily used.

The Consultant is to prepare all the pre-contract stage, i.e., designs, drawings, specifications, etc. and all the Tender Documents and make them ready for competition amongst the tenderers. A contract is created when there are offers, acceptance and intention. If one of these corners is missing, then no contract is created. An invitation to submit tenders is an "invitation to treat". Each Contractor submitting a Tender is offering his readiness to execute the work. When the Owner or Employer or the Client, all refer to the same person who is authorized to select one of the competing tenderers rather than the others, declares his acceptance by a Letter of Award, then a contract is created between the selected tenderer who shall start construction procedure.

If the Consultant is assigned the post-contract services in his agreement with the Client, he shall resume his obligation of supervision. Now, who is responsible for the defects and damages and injuries to the owner, his staff, third parties who have nothing to do with the building. Injury befalls them as they were just passing by?

An arena of conflicts is created for the Engineer and the Contractor as each one of them works hard to throw the blame on the other.

Both of them are lucky, they did not execute the building at the time of Hammurabi (1702-750 BC) as the codes of his law on Building would have been applied which means that they are liable to lose their lives, as both are considered as the Builder.

The codes from 228 to 233 are dedicated to builders and consequences of their work.

One might be interested in having a look at them:

• 228 If a builder has built a house for a man and finished it, he shall pay him a fine of two shekels of silver, for each SAR built on.

• 229 If a builder has built a house and has not made his work sound, and the house he built has fallen, and caused the death of its owner, that builder shall be put to death.

• 230 If it is the owner’s son that is killed, the builder’s son shall be put to death.

• 231 If the slave of the owner that is killed, the builder shall give slave for slave to the owner of the house.

• 232 If he has caused the loss of goods, he shall render back whatever he has destroyed. Moreover, because he did not make sound the house he built, and it fell, at his own cost, he shall rebuild the house that fell.

• 233 If a builder has built a house for a man, and has not lived in his work, and the wall has fallen, that builder shall make that wall firm at his own expense.

Was there no Courts?

Apparently there were Courts. But a Judges ruling was passed under the horror of the Judge falling under code number (5) which states that “if a Judge tries a case, reach a decision, and present his judgment in writing, if later error shall appear in his decision, and it be through his own fault, then he shall pay twelve times the fine set by him in the case, and he shall be publicly removed from the Judge’s bench, and never again shall he sit there to render judgment.”

What a Horrible Law!

Thank God in our new world, laws and disputes are well organized and Contractors as well as Consultants have their rights safeguarded.

In fact, the above may be considered as an introduction to what I intend to write on the coming issues of Al Mohandes Periodical in clarification of the rights and obligations of the Owner, the Consultant and the Contractor with stress on special areas such as Bonds, Guarantees, Insurances, Special Risks, Settlements of disputes, the applicable law and the like.

The General Activities Committee organized a string of lectures and workshops at the Society premises in Juffair. The events included the following:

• A lecture entitled “The Ciprofloxacin Choice of Lubricants for Industrial Gear Wheels” to ensure they last long and work more efficiently. The lecture shed light on the aim of the lubrication process, the importance of viscosity of lubricants, the functions of lubricants, the characteristics of lubricants and how to do the necessary maintenance to extend the life of machinery.

• A workshop on continuing professional development programmer (CPD) run by Eugene Mac Mahon. The workshop focused on the deep understanding of the modern concepts of leadership and management to enable participants to meet challenges and overcome impending dangers. It also aimed at teaching them means of making a success of their business through positive thinking techniques, getting rid of negative attitudes and anxiety, self-awareness and professional skills to enable them to adapt the team spirit and co-operation as a means of success in their work besides providing training on means of creating an effective work environment through building relations based on professionalism. The lecture highlighted the following main topics: Administrative Relations, Network, Various Administrative Types, The Skill A Manager Should Possess, Challenges Which Meet Modern Leadership, Types of Administrative Power, Modern Techniques Used in Making A Decision and Means of Following Up its Implementation, Developing A Healthy Work Environment To Transfer Experience, Assessment of Work, Building Good Relations with Staff, Supervision Skills, and Skills in Preparing and Evaluating a Report.

The Society organized a seminar on “Public Relations in the Engineering Field” in conjunction with Bahrain Public Relations Society. President of Bahrain Public Relations Society Dr. Fahad Al Shamlai highlighted the following themes: public relations and the mental picture dealing with media, some protocol rules, skills in organizing events, and etiquette...
Affordable Housing
Squaring the Circle from Strategy to Design

Introduction:
Throughout history, man has produced a variety of genuine house types and settlement structures. This is usually referred to as Timeless Building Solutions and Common Sense Architecture. The lesson to be learnt is that house/housing should be more than a physical entity; it should respond to different socio-cultural and environmental forces. With the advent of the Industrial Revolution in Europe, housing became an issue of concern that grew with the massive destruction of the two World Wars and intensified during the 20th century with the rapid urbanisation. As a result, there has been a shift and expansion of knowledge in the strategic and operational levels housing policies and designs. This shift has been triggered, among many others, by the failure of the ‘classical’ planning mechanisms, and the enormous challenges to deal with socio-economic and technological changes of cities.

Gravity of the Problem
It is estimated that one-fifth of the world’s population does not have adequate shelter whatever more than a million people, many children, die daily because of lack of adequate housing, and majority of these are found in the developing world (Cheserel & Opala, 2011:7). “One out every three city dwellers – nearly one billion people – live in a slum. The vast majority of slums – more than 90 per cent – are located in cities of the developing world, which are also absorbing most of the world’s urban growth” (UN-Habitat, 2006:13). The task is enormous because ready-made and generally applicable solutions of this many-sided problem are not available (Syagga, 1987). A summary of these problems could be listed as follow:
- Increase demand for affordable housing (population growth, rural urban migration)
- Substandard housing (overcrowding, poor structural quality & lack of proper amenities)
- Lacks of statistics & studies (qualitative & quantitative data, strategies & approaches)
- Economic constraints (lack of financial resources)
- Environmental problems (pollution & replacement of natural resources)
- Administrative hurdles (qualified human resources, and availability, adequate policies)
- Design problems (lack of character, communal sense & inadequacy to people needs)
- Insecure residential status (social & health problems)

The Meaning of Housing
Housing should be understood as a holistic concept that focuses on “both product and process.” The process involves the coordination between planning, land, budget, housing need, amenity, design strategies, and human and natural resources. The product includes the entire immediate physical environment, both within and outside of buildings in which families live, grow, and decline. Its primary functions are to provide (1) comfortable shelter, (2) a proper setting, both within the structure and in its neighbourhood and (3) the focus and location for families and other groups within the larger physical setting.

In general terms, the role of housing could be viewed four from different angles: Physical, Financial, Locational & Psychological.

In this regard affordable housing provision is to be seen as matching / harmonising process between Inputs and Outputs:

Housing: Other Important Definitions
- **Housing Stock**: It is the inventory of residential structures or individual dwelling units currently occupied or available for occupancy. The total number of units changes over time in response to subdivisions or mergers of existing units or demolitions or building new units. There are, however, more complex changes that are more difficult to observe and measure related to quality, occupancy, tenure and structure.

<table>
<thead>
<tr>
<th>Housing Stock</th>
<th>Housing from Existing Stock</th>
<th>Replacement within Existing Stock</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Construction</td>
<td>- Extension to built-up areas</td>
<td>- Change in Quality &amp; Value</td>
</tr>
<tr>
<td></td>
<td>- In-fill projects</td>
<td>- Change in Occupancy</td>
</tr>
<tr>
<td></td>
<td>- New Developments</td>
<td>- Change in Structure &amp; Use (Subdivision &amp; merger)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Private Renewal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Public Renewal</td>
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</tbody>
</table>

**Housing Needs**: It is not simply the difference between supply and demand, but it is a complex process involves:

<table>
<thead>
<tr>
<th>Housing Needs</th>
<th>Estimation of current housing shortages</th>
<th>Replacement of older deteriorating dwellings</th>
<th>Slum clearance</th>
<th>Population increase</th>
<th>Rural-urban migration</th>
<th>Estimation of changes to exiting housing stock (merger, subdivision)</th>
</tr>
</thead>
</table>
Affordable Housing: Key Issues

Provision of efficient affordable housing requires a shift from spatial planning or lack of planning with their adverse negative impacts to aspatial type integrating and synchronizing social, economic and environmental dimensions into one coherent approach. This shift would have major implications on construction methods, building design, urban planning, and codes and regulations. Consequently, achieving holistic housing vision is not a simple task because it demands innovations and improvements; changing priorities and ways of life; and effective policies and institutional developments. However, this would require:

- Formulating a practical shared and realistic vision
- Translating this vision by institutional reforms to effectively implement the vision, also by legislation and regulations revision, which should promote and reward sustainable actions and practices.
- Developing strategies and action-oriented programmes that maximize integration between socio-cultural, economic and environmental sectors.
- Adopting appropriate techniques for collecting physical urban data and for measuring performance of urban areas.

In this regard, three key important issues should be considered.

<table>
<thead>
<tr>
<th>Key Areas</th>
<th>Details</th>
</tr>
</thead>
</table>
| Planning Policy         | - Adopt holistic approach coordinating socio-cultural, economic & environmental goals
                          - Provide the physical context for a cohesive community
                          - Provide employment opportunities
                          - Encourage variety of housing provisions
                          - Encourage investments and partnerships in housing
                          - Review codes, building regulations, application procedures
                          - Devise criteria for measuring performance
                          - Encourage recycling and green building materials
                          - Minimize waste & pollution & maximize use of available resources
                          - Enhance access to resources and housing to ordinary people |
| Site Planning           | - Promote mixed land uses development
                          - Increase residential densities
                          - Design resilient development to enhance walking, cycling & use of public transport
                          - Enhance sense of place & quality of life, especially for elderly, children & disabled
                          - Integrate land use & transport planning with emphasis upon public transportation
                          - Integrate natural habitats with housing projects
                          - Exploit renewable energy, site conditions and passive design
                          - Create identifiable places to live & belonging, attachments & interactions
                          - Design of housing units to be responsive to residents' needs & culture
                          - Approach design from neighborhood point of view to enhance sense of community: clustering, open spaces, views
                          - Variety of housing types and integrated design process
                          - Maximize use of natural light and benefit from passive design principles and advancements in construction technologies
                          - Benefit from site conditions and passive design principles
                          - Use identifiable building forms and elements
                          - Protect and integrate existing natural features
                          - Simplify design layout to allow growth, change and personalization
                          - Employ simple construction techniques that are easy to repair at the same time explore new efficient construction systems
                          - Construction monitoring programmes
                          - Post occupancy evaluation and feedback |
| Design & Construction   |                                                                 |
|                         |                                                                 |
|                         |                                                                 |
|                         |                                                                 |

Conclusion

The complexity of affordable housing provision requires a holistic approach to deal with the varied dimensions and to encourage processes that promote suitable housing environment. This can be tackled when the approaches filter through the different socio-cultural, economic and environmental sectors and their reciprocal relations. It is also true that this filtering should be examined within the urban context and technological advancements. It should be an intelligent process, and requires a shift from physical planning to monitoring and management, which should be negotiated, broad-based flexible, and should possess technical rationality, regulatory order, social and environmental welfare.

References


1. Introduction and Background

Zero waste management is one of the major environmental challenges faced by all developed and developing countries and by urban and rural communities. Waste includes all types of discarded material and is broadly characterized as municipal, industrial, agricultural, and healthcare waste, which is all generated due to various human activities.

Waste that is generated is required to be stored, segregated, transported, treated, and disposed of, which have economic, social, and environmental burdens to be taken care by the respective municipalities and government organizations.

Locally, the global authorities are investing huge financial and human resources to cope with the growing quantities of waste but are hardly able to reach a decent figure. The uncollected waste then poses more significant environmental impacts and public health problems, affecting people’s health and urban living.

The municipal service requires the optimum level of public awareness and participation so that all waste generated is hygienically stored and so that it is being transported, treated, and disposed of.

The local authorities parcel all generated waste needs to be appropriately sorted, collected, and disposed of within the least possible time. But environmentally, the target needs to be diversifying constituent quantities of waste from going to waste stations, like incineration or landfills, and utilizing maximum fraction of waste.

Many developed countries have reached exemplary achievements in terms of waste recycling rates, but on the whole, it is still a mammoth task to be dealt with.

2. The Concept of Zero Waste

The term zero waste was first used publicly in the name of a service “http://zero-waste.org” or “Company Zero Waste, Zero Waste Systems Inc” (ZWIS) which was founded by Mr. Paul Saint in the mid-1970s in USA and a dedicated Zero Waste Environment Innovation (ZWIE) now exists. The founder’s concept was for the redesign of all the products of industry and commerce, and the processes that produce, sell, and make use of them, so that discards never enter place and waste generation is avoided. Through the concept of Zero Waste, the products are to be designed so that discarding is unnecessary and the product is used for its original purpose.

Zero Waste is a powerful concept that challenges old ways of thinking and inspires new attitudes and behavior. It is a multifaceted approach to conserve the Earth’s limited resources. The visionary goal of Zero Waste expresses the need for a closed-loop industrial/ societal system from 100% in Reduce, Reuse, Recycle, to 100% in Reuse, Zero Waste, and to 100% Towards Zero Waste, which is a new concept, spreading around the world as a final solution to waste.

Zero Waste is achieved by re-design of the system in the following way:
1. “http://en.wikipedia.org/wiki/Natural_resource” or “Natural resource” or “Resource” or “Life cycle” so that all products are “http://en.wikipedia.org/wiki/Reused” or “Recycled” or “Reused and recycled” or “Recycled and utilized” so that any material waste sent for treatment is disposed of.
2. “http://en.wikipedia.org/wiki/Landfills” or “Landfills and incinerators” or “Incinerators and incinerators” is minimal.
3. Zero Waste is a flexible concept encompassing cleaner production (using less resources & creating less pollution), product redesign (products can be taken apart, and instead of being disposed of, can be reused, recycled, or composted), “http://en.wikipedia.org/wiki/Recycling” or “Recycling” or “Recycling and recycling” or “Composting and composting” or “Recycling and recycling and recycling”.

Zero Waste promotes the implementation of legislations including levies and taxes that drive producers and consumers towards the real true cost of resource consumption. It helps communities achieve a local economy that operates efficiently, sustains good jobs and promotes self-reliance, employment, and economic growth depending on resources and waste management.

Zero Waste aims to eliminate rather than manage waste.

The Zero Waste concept looks at why so much waste is being generated in the first place and addresses it at the source. It’s about materials management, that design and eventually eliminates waste. It involves designing products and packaging that reduce the amount of materials used and can be reused or recycled.

Zero waste maximizes recycling, minimizes waste, reduces consumption and ensures that products are made to be reused, repaired or recycled back into nature or the marketplace.

Zero Waste is a goal that is ethical, economical, efficient and visionary, to guide people in changing their lifestyles and to make sustainable living cycles, where all discarded materials are designed to become resources for others to use. Zero Waste means designing and managing products and processes to reduce, reflect, respect, and recycle any material waste sent for treatment.

A special feature of Zero Waste is a design principle that is applied to any product or process, or on any system that is toxic, chemically as well as biologically, it applies to the use of unsuitable areas, like coal burning or the use of radioactive materials, and to waste of material and energy, like uncontrolled landfills or nuclear power plants as “Nuclear waste”.

All processes can be designed to minimize the need for disposal, both in the production process and in the consumption process, with the design of their products, products on the recycling, and products in the other hand, deals only with simple materials. This is not necessary to cover all aspects, like waste management, like in the world’s millions of tons, that are disposed of each year. These computers then enter the recycling stream are broken down removed from the world’s waste stream and that most others are dumped through export to third world countries. Companies are then able to purchase some raw materials, notably steel, copper and glass, reducing the use of new raw materials. On the other hand, there is an industry, more aligned with the Zero Waste principle of design for long term use that actually repairs components. It is called the Computer Repair Industry. This is a different category. This is a different category. This is a different category. This is a different category. This is a different category. This is a different category. This is a different category. This is a different category. This is a different category. This is a different category. This is a different category. This is a different category. This is a different category. This is a different category. This is a different category.
The Law of attraction is basically the principle that whatever we think about, we tend to make happen in our lives. This can be good or bad thoughts and things, but we can take control of our minds and make things happen by changing our thoughts. This is the basic principle of the Law of Attraction—whether it is money, physical items, success in business or personal goals or even attracting a romantic partner into your life.

The Law of Attraction is a law of nature. It is impartial and impersonal as the law of gravity. It is precise and exact. It is the strongest of all the universal laws. The Law of Attraction is real, physical, and truly universal in nature. And we have to trigger it to work for us.

The Law of attraction is at work 24x7, 365 days a year. The Law of attraction is a reactive law and can attract both good and bad effects, like the law of gravity does.

I Ask... I want a dream job
Law of Attraction reacts with providing me with the dream job if you do not attract what you want to be, you will not attract what you want to have.

One should learn to come from abundance. It is easier to operate from being prosperity conscious and not from being scarcity conscious. To create money one should learn to come from abundance. You should think rich, you should be rich with possibilities. If you want to attract money, the Law of Attraction states that you will attract in to your life whatever you focus on. Whatever your energy and attention will come back to you. So if you stay focused on the good and positive things in your life, you will attract even more good and positive things in your life. Hope and faith are the necessary parts of the Law of Attraction. Law of Attraction is all about turning your desires into reality. Using the philosophy behind Law of Attraction, not only will achieve desires, you will achieve a greater sense of well being. The term Law of Attraction conveys the Universal law that “Like attracts like” and that which focus on will become you.

Your feelings are the fastest way to know what you are thinking. There are two types of feelings: Good feelings and bad feelings. No one can tell whether you are feeling good or bad, because you are the one who knows how you are feeling at any time. Our brain emits vibrations and scientists have successfully measured these frequencies. There is relation between Law of Attraction and the frequencies which are dominant in our thoughts. In short we can control the predominant frequencies.

Different emotions, negative and positive emit different frequencies. So depending on what frequencies are dominant, you will have the corresponding things attracted to your life. If you think of something, it is very hard to get that out of your head and you have to work on it. The subconscious mind receives and stores information and receives input from the environment and integrates it into our daily thinking patterns.

Lawn of Attraction is working the day universe was formed and the day it came to start working. Just that, now we know the name of this beautiful and life transforming law as Law of Attraction.

Lawn of Attraction says that you should visualize yourself as rich. See yourself in this situation. Feel what you would feel if you were in that situation. Then somehow, money will come to you.

Simply stated, it is the belief that what you focus on is what you get. Law of Attraction can be applied in every walk of life (be it attracting a dream life, to attract wealth, money or abundance, to attract a dream job, to find perfect soul mate, to make a relationship, to enrich your knowledge or get what you badly want) anyway and in any walk of life.

Lawn of Attraction in almost all walks of life, interesting fact is many of us are still not aware of it. This is the opportunity for all of us to leverage upon this wonderful and beautiful law to transform our and others life.

The Law of Attraction is a metaphysical belief that the Law of Attraction is real. That positive and negative thinking bring about positive and negative physical results respectively.

Lawn of Attraction is working the day universe was formed and the day it came to start working. Just that, now we know the name of this beautiful and life transforming law as Law of Attraction.

Lawn of Attraction says that you are a living magnet and that you Invariably attract into your life the people, ideas, opportunities and circumstances in harmony with your dominant thoughts.

When you think positive, optimistic, loving and successful thoughts, you create a force field...
of magnetism that attracts, like iron filings to a magnet, the very things you are thinking about. This law explains why it is that you do not have to be concerned with what is good if it is going to come from.

If you keep your mind clearly focused on what you want and refuse from thinking about what you do not want, you will attract everything you need to achieve your goals, exactly when you are ready. Change your thinking and you change your life.

Why Some People Fail?

This may sound fantastic but often the Law of Attraction is easier said than done. While there are many cases of instant results or massive successes with the Law of Attraction, generally it takes a little while for the manifestations to appear at least at best. People see little or no results and give up without even trying to manifest your desires into reality without much success.

There is one main reason why people don’t get what they want with the Law of Attraction. Often people try all sorts of conscious methods and make physical steps towards their goals; saying positive affirmations, meditating, visualising, dreaming, visualizing, announcing their cosmic order to the universe with all good and any/all of these methods can bring you results, however the important element that people neglect is subconscious alignment.

Often they will do all of these conscious acts but there are doubts, limiting and negative beliefs deep within their subconscious mind which holds them back and stops their manifestations from coming true.

How Subliminal Messages Will Boost Your Law Of Attraction Efforts?

The Law of Attraction is quite an abstract concept and it is no wonder we have these doubts but if you don’t take steps to remove them then they will really limit your success.

This is where subliminal messages come in. They specifically target these negative thoughts, doubts, and limiting beliefs, replace them for positive beliefs and align your mind with your conscious Law of attraction goals. This will give you the best possible chance of success with the Law of Attraction and make you much more likely to manifest your desires into reality.

When manifesting first became aware of the Law of attraction?

The answer is unknown, although there is some evidence to suggest that people knew about universal law at least 6000-70000 years ago.

Our subconscious mind believes every piece of information we put in without interpreting it. This serves as base of our beliefs. There is no doubt that the power of our belief is incredible and it is one of the fundamental elements of Law of attraction.

“Faith is one of the key elements of manifesting your thought and desire with the Law of attraction.”

Following is the example of Law of Attraction at work, as explained by Mother Teresa.

One day in Calcutta a man came with a prescription and said, ‘My only child is dying and the source of this medicine is only imported. Just at that time, we were still talking, a man came with a basket of medicine. Right on the top of that basket, there was this medicine. If it had been inside, I would not have seen it. If he had come before, or he had come afterward, I could not have seen it. But just at that time, out of millions of millions of children in the world, God in his tenderness was concerned with this little child of the slums of Calcutta enough to send, just at that time, that amount of medicine to save that child. I praise the tenderness and love of God, because every little thing, in a poor family is child of God, created by the creators of all things.

Mental doubt is like a poison to us when it comes to activating the Universal Law of Attraction in our lives. In other words, the desire we create in our minds must be strong and clear enough for us to create a strong expectation that our desire will happen. Then the strong expectation will stimulate us (to respond with the needed physical activity) to manifest the goal, activating the Law of Attraction.

The Law of Attraction is fun to use consciously. Its conscious use fosters the thrill of discovery and learning that the universe makes available to us. This is your great opportunity to manifest your desires into reality.

IEIBC Activities (2011 – 2013)

2011:

On 26th January 2011, Science and technology working model contests by school students was held. Our ambassador His Excellency Mohan Kumar was the chief guest of the day. Mr. Abdul Majed Al Gassab President Bahrain society of engineers was the guest of honor of the day.

On 06th January 2011, Mr. Ali Ashoor Abdul Latif, the Head of Operations (Electricity Conservation), Electricity & Water Conservation Directorate, Electricity & Water Authority, Bahrain delivered a technical seminar on “Thermal Insulation In Buildings”.

AMIE summer examinations were conducted in the Indian embassy from 4th June to 10th June 2011. On 18th June 2011, a site visit has been arranged to visit the Bahrain Priesm Glass Factory at Hidd. The General Manager Mr. Mani presented various types of Glass Unit Manufacturing.

On 13th September 2011 we have celebrated the 66th Engineers’ day along with a Technical seminar on Selection of lubricating oil for industrial gearboxes, presented by Mr. Atul Gurhan, Senior Reliability Specialist, Central Reliability Engineering Section, BAPCO, Bahrain.

On 22nd October 2011, a site visit has been arranged to visit the Bahrain SULB steel mill plant at Hidd. The field control manager Mr. Breech Choti presented the overview of SULB steel mill project and construction of steel structures.

On 15th November 2011, Mr. Madhu Pillai, EPC Projects Manager (Middle East), KENTZ Group, Saudi Arabia delivered a seminar on “Continuous Professional Development – Awareness and Guidelines for Engineers”.

On 24th December 2011, a site visit has been arranged to visit the CCIA 400KV substation at As-Suwa. The Maintenance Manager Mr. Mohd. Ali Sheikh explained the various facilities in the substation.

AMIE winter examinations were conducted in the Indian embassy from 3rd to 13th December 2011.

2012:

On 13th January 2012, Science and technology working model contests by school students was held. Our ambassador His Excellency Mohan Kumar was the chief guest of the day. Mr. Abdul Majed Al Gassab President Bahrain society of engineers was the guest of honor of the day.

On 05th March 2012, Mr. Bazzed Ahmed, Tutor, MIN1, Bahrain delivered a Technical seminar on “Green Buildings and Environmental Factors”.

On 17th April 2012, Mr. Seanam Nabil Issa and Mr. Sultan Al-Borno, Manager, FOSROC, Bahrain delivered a Technical seminar on “Advanced Techniques in Concrete Repairing and Waterproofing”.

On 25th May 2012, LiCoM.G.Jayaram, Service Manager, Toyota Plate, Bahrain delivered a Technical seminar on “Ultimate Eco Car – Hybrid Vehicles”. Er.P.R. Dadhiali, Pillai, was felicitated by IEIBC, for getting “Pravasi Bhartiya Samman Award”.

AMIE summer examinations were conducted in the Indian Embassy from 2nd June to 8th June 2012.

On 06th June 2012, an Interactive Session was held with Dr. C Madhavan Nair, Past Chairman, ISRO. This event was organized by BIS along with Indian Club, KEENA, IEIBC, College of Engineering Trivandrum.

On 7th July 2012, a site visit has been arranged to visit the Arab Gulf Manufacturing at Hidd. The senior Manager Mr. Ram A. Hand presented various production stages of Air Conditioning units.

On 19th September 2012, we have celebrated the 66th Engineers’ Day along with a Technical seminar on Infrastructure Project Planning and Control, presented by Mr. Mohammad Abdulla, Senior Manager (Planning), AFCOS, Bahrain. Mr. Gaurav Gandhi, Second Secretary/IOC was the Chief Guest of the day.

On 16th October 2012, a technical presentation was organized at CIIE on the topic “Health care for Engineers - Life style ailments and prevention”. Health Food and Weight Management was presented by the Doctors Dr. Syed and Dr. Danah from Bahrain Specialist Hospital.

On 22nd November 2012, Mr. Alhaj Khalid Dhanabhai, Specialist-IMI, BAPCO delivered a seminar on “Reliability Improvement of ‘rin’ Fans in Refinery and Petrochemical complex”. Mr. Abdul Majed Al Gassab President Bahrain society of engineers was the guest of honor of the day.

AMIE winter examinations were conducted in the Indian embassy from 1st to 13th December 2012.

2013:

On 08th January 2013, Capt. El Halhaim Alfassab, Ministry of Interior delivered a seminar on “Fire and Safety in the buildings”. Mr. Haidar Musabbeh Bedweer, Director of Activities, Bahrain society of engineers was the guest of honor of the day.