

ISLAMIC PERSPECTIVE TO HEALTHCARE ARCHITECTURE - an overview of the Medieval Islamic World with Case Study of Contemporary Healthcare Architecture in Malaysia

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“Bismillah Al Rahman Al Raheem”

INTRODUCTION

The very word “Islam” literally means “to submit to God’s will or Law” and another meaning “Peace” in its righteous usage has to most populace a different connotation altogether. Islam, a religion of peace and Muslims as those who profess the Islamic religion as the way of life, is being looked upon differently by the non-Muslim depending on situation, how the religion is being presented, where, by whom and its application in the Information Communication and Technology ICT age. Like all other great religion, Islam condones good universal values that transcend time, place, race, colour, creed, social status, gender and its application to Muslims and the Non-Muslims as creatures of God. In healthcare, Islam and Muslims had played major roles in the history of medicine. However, little has been said or written about the healthcare facilities Islam has established since its emergence.

Thus, the objective of this paper is to provide a general overview of what Islam is and how its values were being assimilated in the context of designing and planning healthcare facilities or healthcare architecture. The paper will browse briefly on its historical onset of the Islamic world from the Islamic Medieval era and bring about these hidden values to the present time.

Although Islam was initiated in the Middle East as continuity to the religion of other great prophets such as Abraham, Moses, David and Jesus, it is a world religion. Malaysia as a Muslim country in the Far East, from 1400 A.D onwards had already policies on the assimilation of Islamic values in its governance as stated in the Malacca Law prior to the Portuguese and Dutch invasion in 1511 A.D and 1641 A.D consecutively. This was again enforced when Malaysia had her independence in 1957 from the British.

The Five Year National development plans with development policies that include the instruction to assimilate and integrate the Islamic values in the governance were introduced officially in the mid 80s. The governance in the form of written policies and circulars indirectly addressed the planning and design of public buildings and facilities including healthcare buildings. Since then more than 100 big and small healthcare facilities among other public facilities, had been planned, designed, built and occupied with these values incorporated at the various level and in stages. Case studies of these projects, where appropriate, are described or shown diagrammatically to illustrate the planning of such facilities in congruence to the international norms.

As a conclusion, the paper intends to demonstrate Islamic values as a natural value practice by all, intentionally or unintentionally, as a universal value. The paper also hopes to bring about awareness and understanding, that Islam and the Islamic values, as

what was thought to be alien values into healthcare planning and design, is in fact values that are already intrinsic in the present system as well as where we are heading to in the international scene i.e. to provide a sincere wellness environment for all in all its diversity. Thus the planning and design of healthcare facilities as expressed by most healthcare professionals towards patient focus, human friendly, caring, healing, ethical, environmental friendly and so forth are indeed following the basic tenets of Islam – adaptable in all conditions including time. As Islam emphasis on the comprehensiveness of health to include the healthy state of mind, body and spirit, so do the provision of spaces and places to achieve that healthy state, in all it stands, so as to be able for one to submit to the one and only almighty, Allah.

WHAT IS HEALTHCARE ARCHITECTURE AND HOW DOES ISLAM VIEW THEM?

Presumably everyone knows what Architecture is all about as its definition alone will not suffice the whole paper. Healthcare Architecture on the other hand, confine only to architecture for health i.e. buildings that are purpose-built or adapted to bring about wellness to patients or those who seek physical, mental and some time spiritual well-being. These buildings are identifiable as clinics, health centres, hospitals, sanatoriums and other for the same function. Other buildings may be designed for healthy environment in order to avoid sick building syndrome be it a home, an office building or even a factory; but as they are not purpose-built to bring wellness to the sick thus they are not considered as the Architecture For Health per se.

Islam is a way of life based on definitive source of Islamic doctrines the Holy Quran and the Sunna (traditions of the Prophet Muhammad, peace be upon him). These laws were then transcended into the design of any facility for the purpose of accommodating and facilitating that very way of life. The resultant architecture from the different cultural background of the Muslims may profess these hidden values. Due to cultural exposure, the architecture may portray differently in the physical form although they were established with similar concepts and values. Words of caution need to be express on over generalisation of the physical architecture as they may only be appropriate for a certain cultures but inappropriate to some other cultures. Islam had provided clear rules on what is acceptable and what is not in its Shari'a Law (refer Appendix A for more details on the Shari'a Law). Muslims are encouraged to discuss with those whom the society had regarded as people in the know to provide guidance. They are instances where if one has no basis of Islam in its rightful sense, the architecture could also provide a wrong picture to what Islam actually views them as.

“Islamic architecture is more than just a spectacle of domes and minarets, of arches and kiosks, of palaces and gardens..it is a true expression of a strong faith, determined people and rich enthusiasm....Islamic buildings express the religious beliefs, social and economic structure, political drive, aesthetic motivation and artistic sensibility.”¹

“Islamic architecture was a Functional Architecture, using local materials and free form artistic dogmas such as symmetry or the artificial and expensive Greek and Roman

¹ Shaukat Mahmood.2002.*An Introduction to Islamic Architecture*. Unpublished paper delivered at “seminar Seni Bina Islam” JKR, Malaysia on the 28th June 2002.

orders. The result is free elevations, free forms and often original and exciting compositions reflecting function, simplicity, comfort, beauty, which are the a major requirement of the *Shari'a*.”² (refer **Appendix A** for meaning of the Shari'a or Shari'ah).

Like all religions of the world, Islam covers the life of a human being from before birth to after death. The healthcare expression of from Womb-Tomb and from Cradle to Grave only covers part of what Islam governs the Muslims. Healthcare architecture, to the Muslims therefore confines itself to playing a role in assisting humans (regardless whether they are Muslims or Non-Muslims) back to healthy state while he/she is alive on this earth. Complete health in all its comprehensive meaning is important for the human well-being. For Muslims, the state of well-being provide them the ability to submit oneself to the Creator in all his/her faculties in tact.

“In Islamic Law, there are five (5) “fundamental rights” that are to be guaranteed to all citizens: Preservation of Life; Religion; Property; Personal honour (*'ird*);and Sound mind (*aql*). The foremost attention (in law) is to be paid to those who have suffered loss of mind and hence loss of honour.”³

To a Muslim society, Islam emphasis the sacredness of family life as the nucleus of society. The Islamic community protects the female by provision of special spaces for the female both in the private and public buildings. Education is encourage for all individuals from childhood until the end of his/her life, thus spaces for learning are found everywhere in the Muslim community.

The principle of “no harm” from a Hadith that means “No harm should be inflicted by you on others, whether you will or will not benefit, nor shall the individual have the right to hurt nor will hurt by the group or the society”, insinuates that the facility provided should be safe for utilisation of the purported user. Safe meant here is both physical (noise, smoke, obstruction of sunshine or ventilation and eyesight into private areas) and psychological.

The Historical Development of Healthcare and Healthcare Facilities in the Islamic World

The historical background to the healthcare and healthcare architecture in the Muslim world begins even before the emergence of Prophet Muhammad, Peace be Upon Him, in the Greek era in the form teachings from Asclepius, Hippocrates, Rufus and Galen. On the emergence of Islam as a religion, Muslim physicians such as Ibn Srabiyun or Serapion, Razis and Avicenna emerged from the 9th to 12th centuries to provide Europe with ideas and practices as basis for modern medicine.

Islam values the existing medical heritage, theories and practice with the aim of finding ways of dealing with medical problems common to all people such as disease, pain, injuries and successful childbearing. These knowledge were then assimilated and elaborated by a community of both Muslim and non-Muslim physicians speaking many

² Ahmed Farid Moustapha. August 1986. *Islamic Values in Contemporary Urbanism*. First Australian International Islamic Conference.

languages across the vast area stretching from Spain, North Africa to India and the East. Islamic medicine has shown great variation and diversity as it developed over the 12th centuries until today. Local conditions and factors governing communications, the institutions and policies responsible for the delivery of medical care were subjected to political and social fluctuations although they possessed a shared tradition.

Islam has had a very moral and practical attitude towards life and has very relatively little enthusiasm for metaphysical speculation³. For whatever that were constructed to portray Islam as mystical, philosophical and speculative theology, those were not able to supplant this practical and pragmatic moral trend.

“The general health of the Islamic community was influenced by many factors such as dietary and the fasting laws; the general rules for hygiene; burial of the different religious communities of Muslims, Jews, Christians, Zoroastrians and others; the climatic conditions of the desert, marsh, mountain and littoral communities; the different living conditions of nomadic, rural and urban populations; local economic factors and agricultural successes or failures; population migration as well as travel undertaken for commerce; attendance at courts; or as a pilgrimage; the injuries and diseases attendant upon army camps and battles ;and the incidence of plague and other epidemics as well as the occurrence of endemic conditions....”⁴.

“Medical care is always multifaceted with the needs of the society being served by various local traditional practices as well as the formal learned medicine. The medical practice of a society varied not only according to time and place but also at the various strata comprising the society. The economic and social level of the patient determined to a certain extent the type of care sought. The medical care in the medieval Islamic lands involved in a rich mixture of religions and cultures to be seen in both the physicians and the patients a coexistence and blending of traditions unrivalled in contemporary societies....”⁴.

Healthcare architecture of the Islamic tradition includes hospitals, asylums, dispensaries, health centres or clinics, homes and hospices. Generally, Islam has a moral obligation to treat the ill regardless of their social well-being. The hospitals, which were large urban structures, were mostly secular institutions open to all, male and female, civilian and military, adult and child, rich and poor, Muslims and non-Muslims. Islamic hospitals served several purposes i.e. as a centre for medical treatment, a convalescent home for those recovering from illness or accidents, an insane asylum, a retirement home giving basic needs for the aged and the infirm who lacked a family to care for them as well as the terminally ill.

Hospitals

Most of the hospitals of the medieval Islamic era were established in Cairo, Damascus, Granada, Seville, Cordoba and Baghdad. By the 12th century, in Baghdad alone there were 60 hospitals. In the 13th Century, there were hospitals in Turkey and the Indian

³ Fazlur Rahman.1993. *Health and Medicine in the Islamic Tradition*. Malaysia.S.Abdul Majeed &Co.

⁴ *Islamic Culture and the Medical Arts: Medieval Islamic Medicine* page 2,
http://www.nlm.nih.gov/exhibition/Islamic_medical/Islamic_02.html.

provinces.⁵ These hospitals were well organised with different wards for different types of illnesses, outpatient departments and theatres where medical students could attend lectures. These facilities were also provided with fountains to help wash themselves in line with cleanliness requirements of Islam

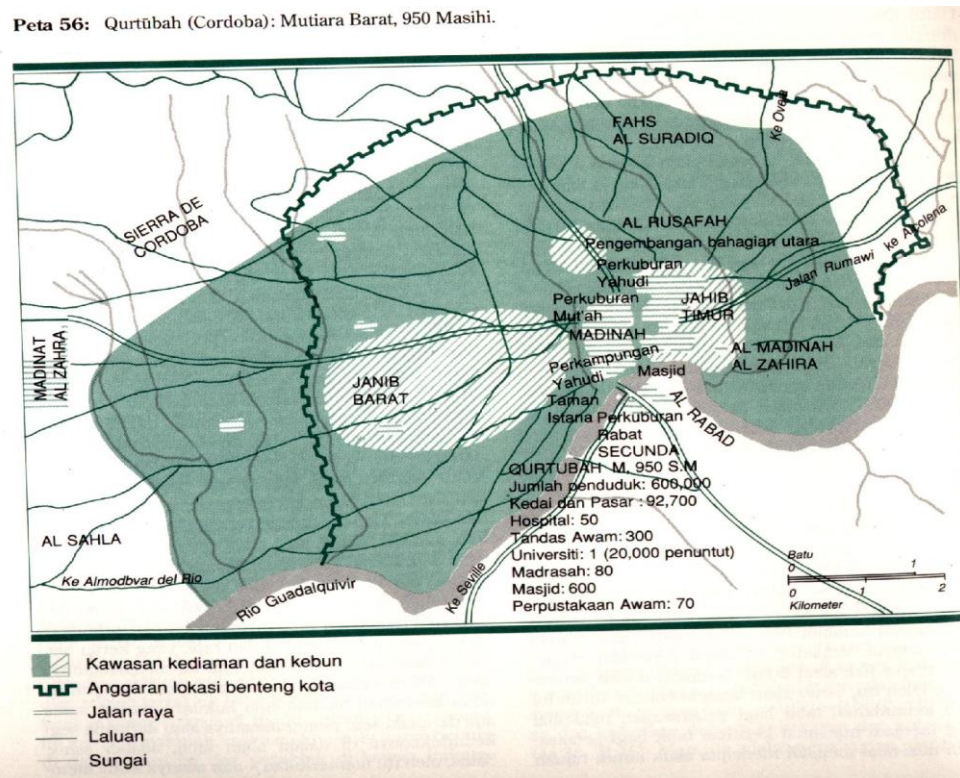


Fig. The City of Cordova, Spain in 950 AD with 50 hospitals, 300 public toilets for population of 600,000.

The first known institution to be set up by the Umayyad caliph al-Walid in 705-715 was a hospice for lepers and the blinds in Damascus. Here, servants and guides were employed to help the inmates. The hospital proper only started from the Abbasid caliphate period from 750 to 1257. An Abbasid caliph al Ma'mun, son of illustrious Harun al-Rashid, ordered an establishment of the first free public hospital of the Islamic world in Baghdad in 809. This hospital was believed to have been set up by Jibrail ibn Bakhtishu, a Christian doctor at Gundaishapur in Southwest Iran, whom were descended from a family of doctors. The son of the dispenser, Yuhanna ibn Masawaih was the first head of this hospital. An Islamic hospital was called a "bimaristan" from a Persian word *bimar*, 'ill person' and *stan*, 'place' or 'the place for the sick'. From then on all major cities were compulsory to be complemented with a hospital. As it was a requirement that those who provide the services were qualified personnels, besides officially sponsored *madrasas* (school), these hospitals were also established as teaching hospitals.

At the end of the 9th century, new hospitals were established in 902 A.D by caliph al-Mu'tadid, in 914A.D by Ali ibn Isa, a good vizier and many others. Many hospitals or

⁵ *Medicine Through Time-Renaissance-Hospitals and Training*,
<http://www.bbc.co.uk/education/medicine/nonint/renaiss/ht/rehtfc.shtml>

asylums were established solely as mental hospitals while larger hospitals did provide quarters for mental patients. Special homes were also established for orphans and old women as part of the hospital entity. Other than organising mobile dispensaries to look after the health needs of the countryside especially towns where no doctors were available in lower Iraq, a team to pay daily visit to the sick in prisons were also organised by the same vizier.

Other than hospitals and asylums, special health centres were located near the jami' mosques where Friday prayers were held and where large number of worshippers flocked. Army hospitals with their team of doctors and services were often a mobile type of hospital in order to follow the army's movements. The caliphs, the viziers and the wealthy had their own physicians and through outpatient clinics. They were in contact with these facilities when they were taken ill on their travel away from home.

The number of new hospitals in cities and provincial towns grew in numbers and size together with comprehensive services. The most famous of these early hospitals was the Adudi hospital set up in Baghdad in 982, at the bank of Tigris by the Buyid 'Adud al Daula. This hospital when it was first set up had 24 doctors with different specializations.

Nur al-Din ibn Zanji built a famous hospital in Damascus in 1154 or 1175 called Al-Nuri Hospital or Nur Eddine Bimaristan. Similar to great palaces, the hospital serves as model of the Seljuk architecture. The description of the daily routine of this hospital by historian Ibn Abi Usaibi'a, where the chief doctor, his supervisors and the personnel serving the patients make rounds investigating the patients' conditions; patients' records were kept; medicine, food and treatment plan prescribed; reference were made in the well stocked library and there were discussion and lectures conducted to doctors and apprentices or residents implies besides medical practice and patient care, this hospital was also a teaching hospital. The hospital was divided into different sections such as lecture and treatment halls, laboratory for pharmaceutical industry, sleeping dormitories or wards and other important facilities contributing to the treatment of diseases. Provision of worshipping halls near the clinics as well as rehabilitation department for the mentally retarded and neural disease were also evident.

The first hospital built in Egypt was by Ahmad ibn Tulun, the Abbasid governor of Egypt, in the southwestern quarter of present day Cairo in 872 A.D. This hospital provided care for the insane. Nasiri Hospital, also in Cairo by Saladin, was also built in the 12th century.

The largest and the greatest hospital ever built in Cairo, Egypt and completed in 1284 was the Mansuri Hospital. It was build during the reign of Mansur Qala'un, a Mamluke ruler, as fulfilling a promised after he (Qala'un) had undergone treatment and recovered from illness at Nuri Hospital in Damascus while visiting Syria. As was the earlier Nasiri Hospital in Cairo established by Salah-al Din al-Ayyubi (Saladin), Mansuri hospital was also converted from a large palace which had the capacity for accommodating eight thousand people.



Fig. 1
Mansuri Hospital,
Cairo, Egypt
(ref.the internet)

Conversion of palaces to hospitals with expensive furnishing and beddings were a trend in Cairo, Damascus, Baghdad and even in the Indian Sub Continent of the Islamic world. These were inspired by the Islamic teachings about the general welfare of the poor and specifically about care of the ill people with some of the quotes from the Quran as follows:

“You shall not attain virtue unless you spend (for the welfare of the poor) from the choicest part of your wealth” (3:92)

“ O You who believe! Spend (for the poor) from the worthiest part of (the wealth) you have earned and crop-yields, and do not give away from its unworthy parts-such that you yourselves will not take until you examine (its quality) minutely-and know that God is not in your need and all praise belongs to Him” (2:267)

In Mansuri Hospital, men and women were admitted in separate wards. All races, creed, and sex, age group, single or in groups, foreigners or local citizens, Muslim or non-Muslims, were accepted without any limit to their inpatient stay until they are fully recovered. The Mansuri's wards were equipped for treatment of things as diverse as fever and eye diseases as well as internal medicine and surgery. As all large hospitals, the Mansuri also had its own pharmacy, male and female attendants, lecture rooms, a well-stocked library, a mosque for the Muslims and a chapel for the Christians. As stated in the Mansuri Hospital waqf-document (refer Appendix B), apart from being a hospitable place for a wholesome recovery of patients, the entire visit, stay and treatment were free. The Mansuri hospital is still in use today specialising in the treatment of the blind since 1915.

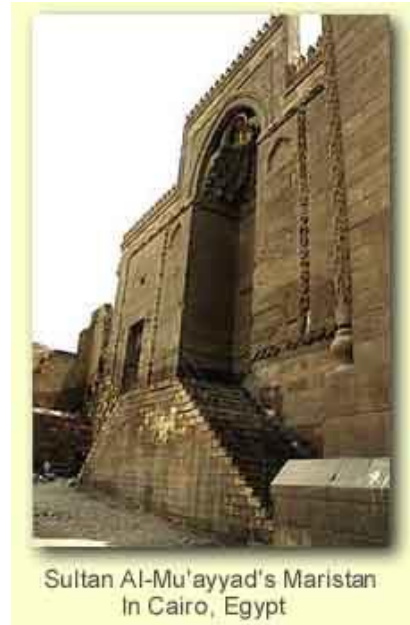


Fig.2
One of the hospital built
during Sultan Al-
Mu'ayyads in Cairo,
Egypt.(Ref: the internet)

Curative aspect of *music* in the Islamic healthcare scene was brought about in 1087A.D from the Arabic theories that were translated to Latin by Constantine of Africa. Sultan al Nasr built a hospital in Mayya Fariqin (south-eastern Turkey) as part of Ayyubid Syria then, with musician and singers regularly sent to console and cheer patients. Although music is generally ban by the Islamic orthodoxy from the beginning, among the rulers for their mass gathering and the Sufis in their mystical exercise, it was wide spread.

In 17th century, the Ottoman litterateur, scholar and traveller, Evliya Celebi, in his Book of Travel- *Seyahatname*, described several hospitals in Istanbul built by sultan Mohammad the Conqueror and Sultan Bayezid II in Edirne of the Ottoman empire uses music. Celebi also described that music was also applied in the Ottoman hospitals built in Damascus, Syria.

These music were generally use as treatment for the mentally sick besides being an entertainment for other patients as well. Osman Sevki, in his *Turkish Medical History during Five-and-a- Half Centuries*, devotes a section to music therapy. Osman also claims that the Arabs were the first to practice music in Hospital Mada'in as well as made music and musical instruments for sick persons, depressed person, and mad person in chains. In 950 A.D, al Farabi, a Muslim scholar, he himself constructed musical instruments and played music that could roused different emotions. Story telling were also among the therapy use to sooth the sick. The Al-Nuri Hospital of Damascus were also known to have introduce music and concerts other than episodes before the patients.⁶

There were also incidences, narrated by Ibn al-Matran, happening in a Cairo Hospital established by Salah-al-Din al-Ayubbi, where relatives were allowed to stay in the hospital with the sick patients especially the dying ones so that they die in comfort.

⁶ Nur Eddine Bimaristan: great medical edifice of the Islamic Civilisation.<http://www.arabicnews.com/ansub/Daily/Day/9901161/1999011635.html>.

In summary, hospitals established by Islam served all irrespective of colour, religion or background. As a non-religious building, hospitals were running by the government, an appointed physician, rather than the mosque or church personnel. Manpower in these hospitals were also of different faith and background but able to work together towards common objectives i.e. towards the well-being of patients. From 931 AD onwards, in Baghdad only the qualified physicians were licensed to practice in these hospitals. Nurses were also trained in these hospitals.

The hospitals were generally divided into inpatient and outpatient department where the inpatient on admission were given special clothes while their other personal items were being stored for safe keeping until they were discharged. On their discharge from the hospital, they were also awarded with some fund to support him/herself for a limited span of time so as to be able to return to work in good form.

In respecting privacy of the individual and gender base as accorded by the Shari'a Law, the hospitals provide separate wards for male and female furnish with nursing staff and porters of the respective sex. Convalescent patients were provided in separate sections within these wards. For infection control, patients with infectious diseases were place in isolation or in different wards. In Damascus, a separate hospital for lepers was also established.

Spacious wards, waiting rooms for visitors and patients were among the characteristics of these hospitals (eg. Qayrawan Hospital built in 830 A.D in Tunisia).

In meeting the Islamic obligation of the five times daily prayers of all Muslims, sick or healthy, plentiful clean water supplies with bathing facilities, for both patients and staff, whom necessitate taking a bath prior to prayer, were provided.

As exemplified in the Al-Adudi hospitals built in Baghdad in 981 A.D, these hospitals were also equipped with the best equipment of the time.

The hospitals were also medical schools for the training of medical students, nurses, interchanging medical knowledge and developing (research and development) medicine as a whole. Thus, provision of libraries with the latest books, auditoriums for lectures and meetings, housing for staff and students were among the facilities provided in the main hospitals.

Patients' records were kept in the hospital for the continuous medical care. The hospitals were open 24 hours a day and many doctors did not charge for their services.

Research and development in the Pharmacology also took place in parallel with medicine.

There were two types of hospitals (bimaristan) i.e. the fix and the mobile. While the above hospitals described were the fix, the mobile on the other hand were transported upon the beasts of burden and were erected from time to time as required. The physicians in these mobile hospitals or clinics were well equipped with medications,

instruments, tents and orderlies. These hospitals were also used in times of epidemics, by prisoners and at war.

Clinics

In India, the so called “hospitals” built during the reign of Indian Muslim King Muhammad bin Tughlaq in 1352 A.D and his successor Firuz Shah Tughlaq in 1388 A.D (both were doctors themselves) were mostly clinics. These clinics were usually staffed with doctors and paramedics as well as medicine “from head to foot”. Patients stayed in this clinic until they were recovered. Clinics were also built as part of the hospices in the Sher Shah Suri’s reign. During Mogul Emperor Jehangir, eight institute were built within his cities where appointed physicians (or *hakims as they were wisemen*) attend to the sick borne by the state. In these facilities both both Muslims *tabibs* and Hindu *veds* (as Hindus did want to be attended by non-Hindus) were appointed. One of the biggest facilities built in 1595 in Hyderabad still stands today. Although hospitals were usually be found in big cities, outpatient clinics were often near and accessible. These facilities, although less comprehensive than hospitals, were found in all villages and thus accessible by most people. These facilities were able to serve many patients without complicated diseases.

Medical Schools

Medical education became part of the general Islamic education with the advent of Seljurk Turks. Even in villages, since it was part of the normal religious curriculum in *madrasas*, the imam of a mosque was usually a doctor no matter how ill-equipped he might be. The largest medical school in the Islamic world in the 9th century was at the University of Jundishapur, Persia. Its location in Central Asia incorporates medical practices of Greece, China, India other than provision for research and development.⁷

Medical education, based on the Gundaishapur’s medical tradition, was also the integral function of a larger hospitals, with most hospitals founded by Adud al Daula in later part of 10th century in Baghdad, were teaching hospitals. These professional schools ran parallel with the development of institutions of religious learning called madrasas. Madrasas started as private foundations whereas the medical institutions were under the state or official sponsorship of the government. In the 11th century, under the Seljurk Turks, the madrasas, such as Nizamiya College in Baghdad, were also funded by the state with the objective of producing state officials in administration of Islamic Institutions.

Similarly to religious studies, in the field of medicine, students from all corners of the Muslim world sought out great masters, in apprentice based systems, with whom to study and obtain the *ijaza*, the certificate the would enable him/her to teach or practice the appropriate subjects such ophthalmology in Cairo, diseases of the kidney in Damascus or Baghdad. Institutions, thus were only secondary. Medical sciences, too were also part of the madrasas curriculum. Example of such established was the Mustansiriya madrasa in Baghdad that was established in 1233 by Abbasid caliph al-

⁷ The Islamic World to 1600.Medicine.
http://www.ugalgary.ca/applied_history/tutor/islam/learning/medicine.html

Mustansir-Billah which is still in use today; and the one built in Istanbul by Muhammad the conqueror, with 16 year curriculum integration religion and the sciences. Practical training were and still done in the hospitals and clinics. The control of medical education and practice with the objective of protecting the patients and regulate the standards of practice were the responsibility of the office of the chief physician in Arab governments, Muhadhdhab al-Din in Ayyubid times and Ibn al-Tilmidh during caliph al-Mustadi. When the standards of medicine and practices deteriorate after it was part of the madrasas education, it was disassociated from hospitals.

Other Allied Facilities

Pharmacology although separate, grew along with the medical schools. The clinical experience grew and written by clinicians of their work called *Al-Mujarabat* (treatments based on repeated experience) could also be seen to include the local cultural practices through time including Indian *Ayurvedic*, *Chinese* and the *Yunani's* (*greek and Ionian*) teachings. As a prescription base practices, the collection of these practices were among others recorded in canons of *ibn al nafis*, the *shah as asbab* (causes of different maladies), *ma'mulat* (prescription proven by experince and relied upon cures) together with the *mujarabat*, *ta'lif-i sharifi* (compound medicine) and *illaj al-Amrad* (cure of maladies). Gardens to grow medicinal herbs as source of drugs for patients and means of instruction for students were also provided as part of the establishment.

Similar to medicine, there were systems in place to test the pharmacists.

The Funding of the Establishment⁴

Islamic hospitals were established in charitable principles, run by the government and financed by the wealthy members of the society as part of their obligatory duties from the Five Pillars of Islam-*zakat*, are therefore free.

These hospitals were financed from revenues of pious bequests called *waqfs*. Wealthy men, especially rulers, donate property as endowments (property could consist of shops, mills, caravanserais or even the entire village), whose revenue went toward building and maintaining the institution. The income from this endowment would pay for the maintenance and running costs of the hospital including stipends for patients upon discharge. Part of state budget also went toward the maintenance of hospital.

Individual physicians may charge fees although most provided services for free.

ISLAMIC VALUES IN THE CONTEMPORARY HEALTHCARE ARCHITECTURE

Islamic values as described in the yester years are timeless. Its application through time, place, climatic and environmental conditions, cross culture and the so called modernism does not falter or change those values in any way. What was critical presently, was how those values are being realised, assimilated and applied intrinsically

to produce the expected result i.e. providing the necessary well-being of a human being, physically, mentally and spiritually.

Dr.Ahmed Farid Mustapha, in his paper entitled “Islamic Values in Contemporary Urbanism”, delivered at the First Australian International Islamic Conference in August 1986, described the importance of basic “material” standards such as health regulations that requires cross ventilation and penetration of sun-rays, potable water, sewerage system, drainage system, accessibility, communication, technologies and other positive effort to facilitate humans as the applied values agreeable to Islam.

The Islamic (*Shari'a*) Law reveal guidelines between not only man and his Creator but also the relationship between man and man and that between types of societies. Medieval or Contemporary Healthcare Architecture has always been an urban phenomenon of a different scale and influences. Generally, all influences affecting the urban setting affect healthcare architecture. Thus the consideration of the *Shari'a* Law, climatic constraints, building materials, the social and economic situation as well as available technology, amongst other consideration, of an urban setting, pre or post industrial age in the Muslim world (as listed in Dr.Ahmad's paper) affects healthcare design.

Principles of the *Shari'a* Law include the sacredness of family life and the support of children; limiting the relationship of sexes outside the family circle; protecting, raising and educating children; public health; enjoyment of life and economy (to avoid squander). In the light of urbanism, the *Shari'a* place strong emphasis on the need for privacy; building heights; building forms; external spaces; aesthetics; architecture; social interaction; and again the climatic constraints, local building materials, technology and so on.

In Islamic healthcare architecture, similarly to general Islamic architecture with exceptions to patient care, amongst others, should be design to address the following concerns (not in any order):

- (1) Public health in terms of provision for infection control, places and spaces for hygiene or personal wash, clean water supply, clean environment, natural light and good ventilation;
- (2) Privacy and self integrity or honour in terms of the provision of private spaces for male and female with visual and audio privacy;
- (3) Safety and security in physical and psychological sense by way of providing spaces for next of kin, home or familiar environment and halal food from the kitchen;
- (4) Good orientation for physical structure (towards Qiblat) and planning layout;
- (5) Artwork that does not contravene the *Shari'a* such as absence of human or animal statues, nudity, expensive works and sacred objects as well as special position.
- (6) Accessibility and convenience for the users of the facility-patients, staff, visitors and other personnel;

- (7) Space or services that provides continuity to everyday life such as school for children, library for some and conveniences of the busy office worker with IT connection to the outside world thus provide less stress for the patients;
- (8) Gardens and courtyards as an extension of indoor spaces to outdoor spaces and yet safe and secured, to induce mental and physical healing;
- (9) Spiritual ease in terms of spaces or convenience to perform five (5) times daily prayers or meditations and reflections; and
- (10) Maintenance free as much as possible.

The physical structure build to house these values as value added should be money worth spending without wastage in the capital cost nor in the long run, recurrent operational costs.

The architecture should address the requirements of the environment within and physically transform them as naturally as possible to tangible and workable spaces inter and intra dimensionally. The form, besides able to reflect its the function should be practical, build-able efficient and available in terms of technology, material and the economic situation. The form should also be designed for human being, respecting human scale and fill with humane spaces.

Islam encourages progress through newly acquired knowledge for the humankind. Thus, new standards or approach in space requirements, new medical breakthrough with state of the art equipments and new medical procedures should continuously be evaluated for their appropriate usage. Exchanges of ideas that could bring better and enhance result to the well being of patients and other uses of the facility is therefore acceptable in Islam. Plane-tree, patient focus, human centred or any other concepts that reflects care for the humanity in its holistic sense is acceptable to Islam and the healthcare architecture it represents.

THE CASE STUDIES-MALAYSIAN EXPERIENCE IN THE CONTEMPORARY AGE

Malaysia did not have the illustrious history of the traditional or medieval Islamic nation of Spain, North Africa, the Middle East and India to be proud of. The indigenous architecture of this part of the world where timber were a plenty did not warrant them to outstay their existence without giving way to natural dissolution. Hospitals and healthcare facilities of permanent nature only begin to exist during the advent of the colonised power of the Portuguese, the Dutch and subsequently the British. To date these hospitals and healthcare facilities still provide the backbone of the healthcare services in the country while being replaced as and when necessary to accommodate new policies and new outlook according to the Five years Malaysian Development Plan.

The Ministry of Health Malaysia has been on a road show to all the states in Malaysia, besides organising seminars and conference, towards the need to refocus the healthcare industry towards *The Patient*. However, the instruction of assimilation the Islamic values into these settings has long been circulated among the public departments in the Government circulars and policies.

The Malaysian government circulated policies in the Assimilation of Islamic Values in Public Administration (including development projects) for implementation in 1985. The policies were incorporated not only in the work ethics of the government servants but also how individuals should realise these values in each of their daily jobs including provision of facilities and services.

In 1995, the government, in the new perspective plan towards vision 2020 for Malaysia to be a developed nation, had included policies for Malaysians to be a caring and knowledge-based society. In healthcare sector, this vision had conjured reaction by the Ministry of Health Malaysia to gear healthcare facilities to be women friendly, baby friendly, ICT friendly, towards a home away from home environment, patients' empowerment and others.

In year 2000, the government through the Ministry of Housing and Local Government had launched a doctrine for the universal planning and development as a guide to all development projects including healthcare sectors. Islamic values was integrated in the guideline as part of planning principles. These planning principles include the relationship of Man with his creator; fairness (*adl*) in terms of appropriateness and balance; *ihsan* in terms of acknowledging the existence of the Creator, accessibility, arts and aesthetics; trustworthy and integrity in terms of its systematic and sufficient provision; knowledge-base; friendly-peaceful and safe; clean and beautiful-completeness.

For healthcare projects development, towards achieving the above requirements, the doctrine specifically implied the inclusion of provisions for the daily visitors as well as those required to stay overnight; provision of recreational spaces that is safe and secure for patients' well-being such as gardens and courtyards; provision of social facilities for all age groups in accordance to the gender and the provision of information centre for patients and visitors.

In the designing these healthcare facilities buildings, the designers are to incorporate the cultural art of the locals that are clean, organised and pleasant; established the community garden; established a centre for the local community; and provide facilities for the disable.

Apart from the above requirements, the government had also gazetted in stages a Private Healthcare Facility Act to govern the optimum space areas, provision for the disable and minimum facilities to be provided by the private sectors for the safe provision of healthcare to their clients. Accreditation of these services, including facilities, is by the Ministry of Health Malaysia.

Examples of the application to contemporary healthcare architecture in Malaysia

With exception to the private sector healthcare providers for which design for the Muslims are encouraged, public sector architecture are to follow strictly to the guidelines. In the random survey of architects in both the public and private sectors, not all were aware of the circulars. As for the public sector healthcare design, no matter who the designers are, the design briefs prepared for them had already incorporated the physical requirements.

As time surpassed, the values and reasons for providing such guideline deteriorate and over simplified by designers themselves to mere provision of prayer rooms and ablution areas in pocket of spaces without looking at the architecture as a whole.

They are also Muslim architects who design the facility base on his/her intuition as a Muslim as well as basic knowledge of the permissible (*halal*) and the non-permissible (*haram*) doings.

Far from the traditional Islamic healthcare scene of the medieval era, the healthcare architecture of today, although equipped with the facilities for spiritual performance (prayer rooms), segregated spaces for male and female, family-centred, patient-centred and of corporate image in its design, lack the original spirit of the benevolence of the place for which the typology of building were able to portray in their yesteryears.

Towards attaining these lost values of Islam in the contemporary healthcare architecture, Malaysia tries, in the assimilation of Islamic values into the projects amongst which as listed and described below:

- (1) In the site layout of any healthcare facilities buildings as best as possible to be laid in the orientation of the Qiblat i.e. towards Makkah. This is to make sure that the utilisation of space for prayer in whichever room is possible.
- (2) In the needs to focus towards patients as the main recipient of the services, the facilities were planned and designed with patients having to move less and services comes to patients instead. Thus the designed of the spaces such as the outpatient clinics being a one-stop centre. With the use of automation, samples are taken within the clinic and transported to the laboratory for testing without patients being told to move to the laboratory as before. With ICT, information reaches the desk of the physician on time to advise the patients the required treatment. Treatment, where possible, are also handled within the same convenient area or via telemedicine where appropriate.

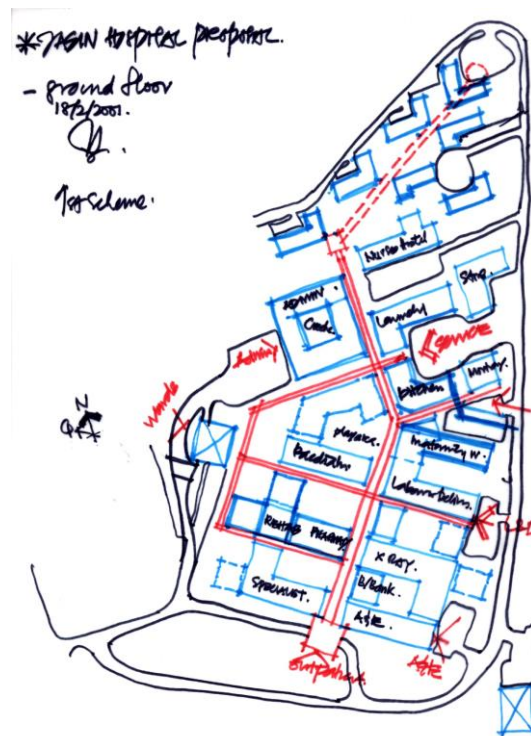


Fig. 3 Jasin Hospital (under construction). Showing the positioning of the site towards the qiblat (direction of Makkah).

- (3) Towards containing the family and as Asians are fond of bringing the whole family to any healthcare facility as visitors or as an outpatient, facilities like the play area for the accompanying children, the large waiting area, the cafeteria, facilities for nappy change accessible for both male and female, and breastfeeding rooms were provided. Even the consultation rooms were designed to accommodate as least accompanying relative or the children. In the paediatric ward, mothers are allowed to be with their children. Mothers' facilities are provided in the special care nursery to allow continuity in the breastfeeding as well mother-care as part of the therapy to ill babies.

For the critically ill patient, relatives waiting area are also provided adjacent to the ICU, the operating department besides the main visitors hall. Telemedicine, although still in its infancy age, are also encouraged to provide this service to the people at remote areas. Patients on convalescent are referred to the nearest hospital or clinic for continued administration near to home.

Home delivery of babies are still preferred with exception of critically ill patients.

- (4) The need to address to the disable besides the patients that include the frail, the elderly, the blind and the hearing impaired, accessibility in the forms of provision of parking areas for these people besides ramps, lifts, special toilets and other were also introduced. The locations of the required adjacent

departments are firstly for the patients then the staff circulation in themselves. Information and goods flow can be implemented via automation and ICT system.

- (5) The segregation of male and female patients and other users of the facility can be seen in the provision of separate wards for male and female in all the discipline, separate toilets, separate change rooms, individual compartments or rooms for multi space areas in the use of curtains.
- (6) For privacy and integrity of patients, areas for examination procedure are provided with curtains within the room; patients are never been examined without the presence of the 3rd person i.e. the nurse or attendant of the same sex to ensure safety of the patients; where possible separate routes are planned and designed from patients on wheels i.e. beds or trolleys from the main hospital street; each bed space in the multi-bed area are confined to maximum 6 beds with each patients enjoying their own personal space with cabinets and visitors chairs.

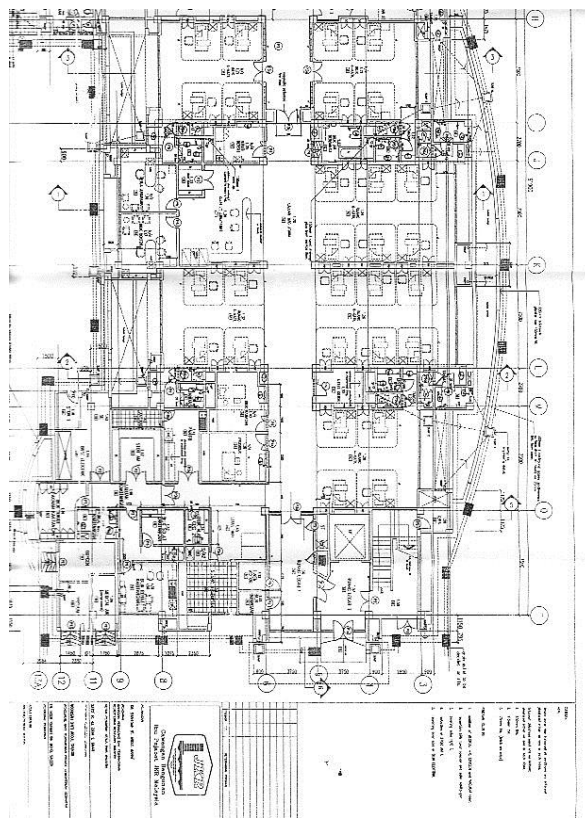


Fig.4
Layout Plan of a
Typical Ward
(2002)

In the labour room, patients are provided with single labour deliver rooms for privacy. Husband or next of kin are allowed to be with patient to facilitate labour other than to provide bondage between spouses.

- (7) To compliment the obligatory five times daily prayers for Muslims patients, staff and also visitors, prayer rooms are provided at all the wards, and all

departments that require changing such as the operating theatre departments, the CSSD, the ICU, the Special Care Nursery and others. For mass prayers the larger prayer rooms or *Suraus* or *Musolla* are provided accessible to all off the hospital street shared by all. These prayer rooms are provided separately for male and female with accompanied ablution area.

- (8) In the labour rooms, the reception of the Muslim babies although handled by all doctors Muslim or Non Muslim, male or female obstetrician, a Muslim doctor or nurse or the spouse will recite a prayer to the ears of the child as required by Islam. The after-birth or placenta for Muslim patients are return to the family for proper burial. Prior to birth, mothers-to-be are encouraged to recite the verses of the Quran to provide familiar soothing sounds to the babies within.
- (9) In death, if it happens in the Emergency department or dead-on-arrival, a holding area for the dead with relatives waiting area is also provided. In Islam, it is important that a Muslim body be kept accompanied with recitation of the Quran and prayers until he or she is properly buried. In the design of the mortuary, the Muslim bodies are provided with separate refrigeration units to hold them temporarily. In Islam, a body must be buried as soon as possible to avoid the dead from suffering spiritually. Thus relatives of the patients will collect post haste for burial. Prior to the burial, the ritual bathing and prayer of the body is sometimes done within the mortuary in the hospital. Thus there are provision within the mortuary, a place for bathing and special prayer for the dead separated from the non-Muslims areas.
- (10) In the provision of food, only one kitchen was provided. In line with government policy that all public kitchen as Halal kitchen, the former Halal and non-Halal kitchen were change to just Halal kitchen for all. This not only attain to hospitals or healthcare but also in public schools and government agencies.
- (11) In Malaysia, the government provide and run these facilities. Only about less than 10% of the actual costs of the drugs are chargeable to the patients. For general outpatient treatment only RM1.00 (about US 0.38 cent) was charged; for specialist outpatient about RM 5.00. For those who cannot pay, they are to be referred to the social worker for the necessary endorsement of their status for which they will be exempted from payment at all. However, for expensive treatment such heart operation or cancer, sponsors will need to be notified through the media.
- (12) Government servants are given special treatment for which through the “caring society policy”, besides spouses and children of the employee, the parents can also benefit from the scheme.
- (13) In the government privatisation of healthcare services, only the maintenance, laundry and housekeeping services had been privatised.

Critical or patient-care services are still by the government. The next in the pipeline for privatisation is the catering services.

- (14) On medical education, aside from teaching hospitals attached to universities, most large and medium public hospitals also provide post-graduate training for the medical staff to specialist level as well as training for the para medical staff and nurses. In some instances, private medical schools local or foreign, have signed memorandum of understanding (MOU) with the specific hospitals to utilised them as part of their clinical training.

In a random interview of practicing Malaysian's or foreign architects whom may be Muslims and Non Muslims, designing these facilities in Malaysia, most are not aware of the Islamic requirements in these projects. Thus, the architects design them as per the project briefs given to them or provide similar facilities to what were provided in other established facilities oblivious of the purpose per se. When one question oneself on Islamic values in these facilities, only places of spiritual or ritual performance, such as the provision of prayer rooms could be envisaged by most architects as seemingly Islamic. Almost none can visualise them as simple hidden values that could be conceive through proper planning and design with care.

Although Islam encourages the provision of landscape elements such as gardens that is safe and secured, due to the absorbitant costs of the projects, these elements are the first to be slashed from the budget with the hope that it will be done perhaps at a later date. They are not many well-to-do personalities that are willing to part with their wealth for the sake of healthcare for free as they were done in the past. Malaysia as a Muslim state, although with facilities stated above, has still far to go towards attaining even the requirements as conceived in the Islamic medieval era.

SUMMARY

Healthcare architecture in the Islamic aspects goes beyond the physical realm of providing the physical facilities to only the physical sick. As described above, it is a universal value and should be approachable by all. The architecture, in summary, should accommodate in its functionality, features that could enhance remembrance of God (Allah) without detrimenting the required clinical procedures of infection control and good medical practices accepted worldwide. The architectural *form*, though flexible in its approach, should not reflect nor give connotation that it support iconography forbidden in Islam e.g. to avoid crosses in plans, openings or decorations.

It is possible to deduce that the values towards which we are heading to with the aid of ICT, automation and towards healing environment with psychological and physiological approach in the healthcare architecture, is realising the same values of Islam. Change is inevitable in the healthcare provision but that change should be improvise towards a humane environment as required by all.

Rising costs in the provision of healthcare is still the concern in all countries, developed or developing that takes away the actual focus of healthcare towards the well-being of the patients. Perhaps research should be done with the focus on how to attain or contain

these costs efficiently without depriving the needy the required treatment as well as to sustain the provider the required funds to operate in the most effective way.

This paper may not directly described or show the kind of healthcare architecture acceptable to Islam. It is with hope that the implication to the design embodied in the Islamic requirements to serve the sick, whatever and whoever they are, could be derive at as checklist for the best possible results.

Sincerity in the implementation of these projects with the hope of getting blessings from the almighty (Allah) here and hereafter, and not merely for material gains should be the aim by the respective architects and their clients. Islam is not against profit or business, but excessive gains through unduly means is definitely forbidden (*haram*) in Islam. *Wallah huallam (Only Allah knows)*

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Prepared for the 22nd Public Health International Seminar in Berlin, Germany, 17th -27th July 2002.

Appendix A

THE SHARI'AH

From the Qur'an and the Sunnah, the Islamic Moral and Legal System has been formulated. Each person needs to know:

- the sources of the Shari'ah
- the purposes of the Shari'ah
- the basic principles of the Shari'ah

Sources of the Shari'ah

The Shari'ah is derived above all from the Qur'an and Sunnah. We have also seen that when required the Sunnah sanctions the use of one's own judgement and initiative in reaching decisions. The use of individual reason and judgement is known as *ijtihaad* and is one of the factors which give the Shari'ah its essential flexibility and dynamism.

The Shari'ah also recognises local customary law of any place so long as it is not in conflict with the Quran and the Sunnah.

The Purposes of the Shari'ah

The main purpose of the Shari'ah is to realise and secure the general good or the interests (*masaalih*) of people promoting their welfare as individuals and as a collective body and keeping harm and injury away from them. This it seeks to do, in order of priority, by:

1. guaranteeing their 'vital needs' (*duruuriyaat*)
2. catering for their 'requirements' or exigencies (*haajiyaat*)
3. allowing for 'betterment', enhancement or improvements (*tahsiiniyaat*) in the quality of life.

An example of a vital need is housing, to protect people from heat or cold and provide for sleep and rest.

An example of a requirement is windows in the house to allow for light and privacy.

An example of an improvement or enhancement is furniture or beds to make life easy and comfortable.

'Requirements' and 'improvements' can only be catered for if vital needs are met or satisfied. If a vital need is threatened then a lesser need can be dispensed with. For example, under normal circumstances a person must keep his or her private parts covered. Keeping your private parts covered is important for the enhancement of your life and conduct but may not be absolutely vital for the preservation of health and life. If, therefore, a person has to have medical treatment which is a vital need and which requires his or her private parts to be examined, the vital need takes precedence. In such a situation, the Shari'ah allows a person to uncover his or her private parts to the view of a medical professional.

Vital needs

The vital needs which the Shari'ah is concerned to protect are those on which the life of man depend. If any of these needs are threatened, corruption, disorder and injustice will result in individual and collective life. These vital needs, in order of priority, are five:

1. the *Diin*, or natural system of beliefs and way of life of Islam;
2. the life or *nafs* of the individual human being and human species;
3. the mind or '*aql* of the individual;
4. the honour and chastity or '*ird* of the individual;
5. wealth or property.

The protection of each of these is necessary for the welfare of individuals and society. By *Diin* is meant the totality of beliefs, practices and laws by which Islam regulates the relationship between man and his Creator and between man and man. Preservation of *Diin* implies keeping it free from deviation and error, inviting others to accept and live according to it, and defending it from hostile forces.

By the preservation of life is meant measures to preserve the human species in the best possible way and this includes laws relating to marriage and reproduction. It also includes providing the vital needs of food, drink, clothing, shelter and security. It also includes laws relating to prohibition of suicide and abortion (except when mother's life is in danger) and the need for just retaliation against those who commit murder.

The safeguarding of the mind is the concern of such provisions of the Shari'ah which forbid the consumption of alcohol and all intoxicating substances.

Preserving honour and chastity is the goal of such Shari'ah laws which punish sexual relations outside marriage and false accusation against people who are chaste.

By the preservation of wealth is meant the laws of the Shari'ah which encourage people to work and earn a living lawfully and which prohibit exploitation and injustice.

Requirements or exigencies

These pertain to laws of the Shari'ah which provide ease in case of difficulty and which eliminate or reduce hardship from people's lives. For example, a person is not required to fast in the month of Ramadan if he is ill or on a journey. In business transaction, the Shari'ah has allowed a variety of contracts and trading practices. It allows any local custom in meeting needs so long as it is not otherwise prohibited. It allows divorce in case of need. Such allowances receive sanction in the verses of the Qur'an:

"God has not created any hardship over you in matters of religion."

"God desires ease for you. He does not desire hardship for you."

Moreover the noble Prophet said:

"I was sent with the true and tolerant Religion."

Improvement or Enhancements

These pertain to all the laws of the Shari'ah that relate to improving the quality of human life, conduct and morals and beautifying the conditions under which life is lived. These include laws pertaining to cleanliness of the body, clothes, and environment, the covering of the private parts or *'awrah*, the method of getting rid of impurities, the performance of extra acts of worship such as voluntary fasting and charity and so on.

The above categories relate to the general objectives or concerns of the Shari'ah. From these, we can see that the concerns of the Shari'ah are not only with aspects of personal religion or worship but deal with all aspects of life. Moreover, the Shari'ah is not just 'law' as many understand the term; it concerned with morals and worship as well.

Specific Guidance and Basic Principles

In order to realise its objectives, more detailed guidance is then provided in the Shari'ah by dividing life's transaction into that which is lawful and that which is prohibited. In many cases, this guidance is explicit for Islam is not vague and it does not simply ask people to be good and morally upright and to keep away from evil, and then leaves them to their own devices. More than this, it provides basic principles which gives the Islamic system a strength and a flexibility to deal with new problems and situations and which help to promote goodness, justice and fairness at all times.

Reference: Abdul Wahid Hamid.1999. *ISLAM THE NATURAL WAY*. Malaysia. Percetakan Zafar Sdn.Bhd. Chapter2 page 34-37

Appendix B

Part of the *waqf*-document of the Mansuri reads:

As for the above-mentioned hospital founded by our master, the said sultan-he has dedicated it as a place of medical treatment for Muslim patients, male or female, rich and poor, from Cairo and the countryside of Egypt. Both residents and non-residents from other countries, no matter what their race, religion, and so on, (shall be treated here) for their ailments, big or small, similar or different, whether the diseases are perceptible (that is, are physical) or whether they are mental disturbances, because the preservation of mental order is one of the basic aims of the Shari'a (in Islamic law, five "fundamental rights" are to be guaranteed to all citizens: preservation of life, religion, property, personal honor ('ird), and sound mind (aql)) *The foremost attention (in law) is to be paid to those who have suffered loss of mind and hence loss of honor.* These and other maladies it is needful to treat through compound medicines or simple ones, which are well known to those who are versed in the art of medicine and practice it. Single people shall be admitted to it as well as whole groups. Whether they are old or young, children or women. The hospital shall keep all patients, men and women, for treatment until they are completely recovered. All costs are to be borne by the hospital whether the people come from afar or near, whether they are residents or foreigners, strong or weak, low or high, rich or poor, the employed and the employers (that is, of all social classes), blind or sighted, famed or obscure, learned or illiterate. There are no conditions of consideration and payment; none is objected to even indirectly hinted at for non-payment. The Entire service is through the magnificence of God, the generous one

Reference:

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