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Prefeasibility Report of Provision of Facility Management Services on Management Contract at KC General Hospital, Malleswaram

Karnataka Infrastructure Development
Department Project

Submitted by



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Submitted to

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Executive Summary

Government of Karnataka has made several initiatives in last two decades with the intent of improving the functioning & performance of the health sector and ultimately the health status of the people in the state. It has also brought few fundamental changes in policy and institutional arrangements of the health sector. Key reform initiatives includes decision of involving private players in public healthcare service delivery, improving quality & efficiency of healthcare institutions and generating new resources for health care.

Service delivery in healthcare facility consists of ‘The Cure’ and ‘The Care’ part. The Cure part is the clinical services offered by medical team whereas the Care part is the hospitality services within the hospital provided by skilled/semiskilled/ unskilled providers. This care part proves to be a major component in the patients’ hospital experience, selection of healthcare facility and has attained new dimensions at present. Now patients being consumers of healthcare facilities are more demanding, knowledgeable and play a significant role in provision of better quality of services.

In the Indian Healthcare scenario, private healthcare facilities are preferred for the cost and quality of services even though the treatment in public hospitals is free. This dominance of private sector in health care services over government health care services is essentially due to the better quality of care services available in the private sector hospitals. Inadequate ‘care’ adversely affects the perception of patients and their relatives about the public health facility. Therefore, GoK conceived this project to improve the quality of facility management services of public hospitals in order to provide better “care management” to the patients.

Facility management services encompass renovation, maintenance, repair, and operation of facilities, grounds, and utilities at hospitals to ensure better functionality of the hospital environment. Hospitals are complex entities and broadly divided into critical and non-critical areas. Non-critical areas are akin to other conventional offices whereas critical areas have special needs like higher level of sterilization. Good facility management services help to create an enabling environment for effective and efficient working of clinical services besides offering patients and their attendants a good, comfortable, and pleasant hospital experience. Faced with many constraints of service delivery in the limited resources, GoK’s foremost priority in this sector is to meet rapidly rising demand for “the cure” part of the healthcare services; hence, it has not been able to provide ample attention to upgrade the ‘Care’ services of public healthcare facilities, so provision of facility management services on management contract is proposed. The project plans to club all the ancillary services of following two hospitals in Bangalore and gives it to one / two private firms on management contract as pilot project;

- K.C. General Hospital, Malleshwaram
- Jayanagar General Hospital



The project is designed to be offered on Management contract to the successful bidder, the bid variable being the cost at which these services are provided. The proposed contract period is 5 years, following which it will be rebid again.

IMaCS conducted thorough assessment study that included visits to both hospitals, consultations with their medical superintendents, physicians, administrative officer, medical records officer and collection & analysis of institutional performance data to review the status & needs for ancillary services. This primary survey was followed by financial analysis of the proposed model to check its commercial viability and rationalization of giving Facility Management Services to private agencies on management contract.

Financial analysis of the project was done based on “Whole Life Cycle Costing” concept, which is the total cost of the project. IMaCS considered two scenarios for this project. First scenario is for in-house services provided by GoK and second scenario is for provision of services on management contract. In the absence of all financial figures of the cost incurred by GoK for providing in-house FM services, IMaCS made estimations based on the guidelines provided in IGNOU / other standard academic books of hospital administration and current minimum wages act of Karnataka. For getting the ‘Ballpark’ cost figure for services on management contract, IMaCS took the most prevalent costing pattern and values of the facility management (FM) industry. This helped in the ‘Value for Money’ analysis of this project.

Estimated cost of providing FM services on management contract came out more than the in-house services. IMaCS opines that ‘Value for Money’ analysis based only on financials would limit the overall value of this project. The advantages of providing Facility Management Services on management contract through a private provider has to be taken in a wider perspective taking into account many nonfinancial & intangible benefits and the impact it will have on hospital functioning, customer satisfaction & its public utilization. IMaCS finds more value for money in provision of FM services on management contract for a public hospital going for NABH accreditation.

This project shall be verified for its success and ability to meet the specified objectives at the end of every year. Upon successful achievement of the objectives, the project may be replicated across the state following the same model or modifying it as per the requirement.

The project would offer a better support to the hospital of Karnataka by providing effective FMS and hospital could focus on core medical services to the patients. It would reinforce the commitment of the government towards the welfare of its constituents.

Chapter 1 – Introduction

1.1. Project idea

1.1.1. Basis for selection of this project

The Government of Karnataka in its commitment to improve the health and well-being of the people has provided extensive resources to all levels of public health facilities, however wide gaps exist between the desired, and the actual level of delivery & utilization of these services by the public.

There are two facets to service delivery in healthcare facility such as a hospital viz the Cure and the Care part. “The Cure” part is the services offered by medical team for the diagnosis & treatment of the ailment whereas “the Care” part is the hospitality services within the hospital provided by non-medical and skilled/semiskilled/ unskilled employees. This care part is directly linked to the patient comfort proves to be a major part in the patients’ hospital experience, and has attained new dimensions in the current context with higher aspirations of the populace. With patients being considered as consumers of healthcare facilities, there is an increasing need for provision of better services as it relates to provisioning quality of services. Consumers are now more demanding and knowledgeable in the context of the existing consumer rights.

In the Indian Healthcare scenario, private healthcare facilities are preferred for quality of services even though the treatment in public hospitals is free. It has been found that 80percent of households prefer to use private sector treatment in India for minor illnesses, and 75percent of households prefer to go to the private sector for major illnesses. This dominance of private sector in health care services over government health care services is essentially due to the better quality of care services available in the private sector hospitals. Inadequate ‘care’ adversely affects the perception of patients and its relatives about the public health facility. In spite of good experienced doctors & treatment, a substandard hospital experience due to poor quality of infrastructure and utilities reduces the confidence & trust and finally utilization of public health facilities. Provision of good facility infrastructure provides a sense of security and confidence to the patient.

Like GOI, GOK strives to shape, strengthen, support, and sustain a health system where every citizen has access to readily available, qualitatively appropriate, and adequately wide-ranging health services at affordable costs. GOK shares the vision articulated in GOI’s XIth five year plan which includes the agenda:

1. To transform public health care into an accountable, **accessible, and affordable system** of quality services
2. Public provisioning of quality health care to enable access to affordable and reliable health services, especially in the context of **preventing the non-poor from entering into poverty or in terms of reducing the suffering of those who are already below the poverty line.**

Keeping in view the Government's objectives this project has been conceived to ensure quality services to the public. The project aims at incorporating PPP in the hospitality services and other related non-clinical services of public hospitals in order to increase their quality and in turn increase utilization.

1.1.2. What are Facility Management Services?

Facility management in a hospital setting involves renovation, maintenance, repair, and operation of facilities, grounds, and utilities at hospitals to ensure the requisite set standards.

Facility management services encompass multiple disciplines to ensure functionality of the built hospital environment by integrating people, place, process, and technology. With respect to healthcare facility, these services have been broken down into two sections, hard services, and soft services.

Soft Services

- Cleaning – includes cleaning of critical and non critical areas
- Waste Management – including waste segregation, storage and disposal
- Pest control – includes pest control for entire site
- Dietary and canteen – features provision of cooked-fresh meals for patients and others
- Laundry- Includes washing linen and bed sheets
- Safety and incident management – includes fire extinguishers, emergency management
- Gardening and grounds maintenance – includes gardens maintenance for entire site

Hard Services

- Internal logistics – includes movement of patients, specimens, samples and pathology, and furniture
- External logistics – includes transport of patients , ambulances and equipment between hospitals and to the community
- Energy and utilities – includes maintenance of electrical, HVAC and plumbing services

1.1.3. Why Facility Management Services are important?

Hospitals are complex entities and very different from traditional commercial organizations / offices / buildings. They are unique because of the various complexities involved there in at infrastructural, manpower and operational level. It has clinical, technical, support, and ancillary services, which divide it into various specialized subsystems. Ancillary services help to create an enabling environment for effective and efficient working of clinical services besides offering patients and their attendants a good, comfortable, and pleasant hospital experience.



Broadly, hospital has critical and non-critical areas; the requirements of these areas are different and need different skill sets. Non-critical areas are akin to other conventional offices whereas critical areas have special needs such as,

- Increased frequency of specialized cleaning
- Higher levels of Sterilization and infection control
- Robust and functional infrastructure
- 24x7 Air conditioning, cooling, heating and air changes as per the set standards for effective Hospital infection control
- 24x7 functional Medical vacuum system
- Uninterrupted Lighting and power supply
- Functional electrical points and plumbing system

These services directly affect the quality and provision of care in a healthcare system, facility management is therefore a crucial pillar in healthcare delivery.

Healthcare is essentially a service industry, the customers & patients interact with the service providers through a process, which is dependent on size of the facility and kind of services being offered. Various studies have revealed that patients have more than 90 per cent of all interactions in a hospital before they meet the clinician for the first time. Therefore, by this time the patient would have considered and evaluated the facility based on its cleanliness, ambiance, its interaction with the hospital infrastructure and availability & functionality of patient utilities like functional fans. This directly affects their confidence and trust in that facility to treat them effectively. Moreover, the patient's family also takes far greater notice of these services and draws more critical conclusion than even the patients themselves draw. McKinsey study in the United States determined that 59 per cent of patients selected their hospital on non-clinical factors. Patients often care more about the factors they can evaluate than the ones they cannot, such as the clinical care on offer. This highlights the fact that patients do consider care services more than the cure services while selecting a hospital.

Another important factor is that now the increasing purchasing power of consumers better economy has a direct bearing on healthcare sector, besides demanding 'quality cure' the emphasis on 'quality care' has also increased. The concept of patient satisfaction is rapidly catching up with hospital administrative authorities in the era of quality. Given a choice, patients prefer to be treated in a private hospital and this class of patients is on the increase. Indian middle class comprises of around 25 to 30 per cent of the total population and they aspire for better services and quality of care. Even the economically poor class is catching up this trend and prefers to visit facilities with proper infrastructure and maintenance of facilities. The increasing reach of health insurance is another tool in the hands of common man, which make him seek for 'value for money' of healthcare services. This growing awareness about healthcare among public is promoting them to make informed choices. All this poses a big opportunity cost for government and defeats its objectives set in the vision.

1.1.4. Why PPP in Facility Management Services of hospitals?

GoK has initiated the process of improving the quality of healthcare services. The purpose of this initiative is three folds:

- Increased patient and staff satisfaction
- Facility up gradation leading to NABH / ISO accreditation
- Establish good reputation of public healthcare facilities

In the section 5.6 of the Karnataka Integrated State Health Policy 2004, Karnataka government has proactively identified the potential role of private sector in the healthcare delivery to the public. This planned strategy of involving private players in strengthening public healthcare infrastructure is most suitable for this project as the state faces following challenges in healthcare arena:

1. Constraints faced by the Government in its delivery of healthcare services are;
 - i. Limited financial resources
 - ii. Non availability of adequate skilled manpower
 - iii. Delay in sanctioning additional manpower due to existing protocol
 - iv. Unionization of the labour manpower and Staff absenteeism
 - v. Lack of incorporation of mechanization and latest technology in FMS
 - vi. Inadequate monitoring and operational efficiencies
 - vii. Inadequate maintenance of FMS related equipments leading to larger down time and fewer operational hours
 - viii. Changing demographics and epidemiological trends put enormous pressure on the existing healthcare infrastructure to meet public needs. Government's first priority is to meet this rising clinical load.
2. GOK is evolving its role from that of provider to that of a regulator to ensure fair and transparent healthcare delivery to its citizens. This transformation requires the government to not only provide a transparent governance system but also partner with private organizations.

In this scenario Facility Management Services can be conducted in the PPP mode which will provide the following benefits to hospitals:

1. Create a healthy environment by having well-maintained infrastructure and 24X7 operational utilities. Prevalent practice of managing facilities in public hospitals with the help of semiskilled / unskilled personnel in an ad-hoc manner will be replaced with skilled personnel and expertise to provide good services.
2. Adequate number of specialized manpower will get deployed in hospitals for FMS which will ensure consistent quality of services. Under the PPP model, government will keep the ownership

of the facility and would decide on the terms & conditions of the management contract as per the specific requirements of the hospital.

3. Offloading the facility maintenance to an external private agency and monitoring the services will relieve senior doctors from their administrative burden and saves their considerable time & energy.
4. Improvement in care services requires mechanization, trained manpower, and better supervision by professionals; this necessitates capital investment in non-core areas. PPP will minimize this cost of capital for the hospital which alternatively can be used to enhance the clinical services.
5. Proved efficacy, better cost management, avoidance of additional expenses, sharing and managing risks, overcoming red tape and negative attitudes are some of the other associated benefits.
6. It provides opportunity to government for mobilizing private capital to improve infrastructure, speed up the delivery of services, and eliminate subsidies. Public hospitals will have access to best practices in hospitality services.

Therefore, in order to create an enabling environment for patient care and increasing utilization of public health facilities, bringing in PPP for management of facilities in hospitals was thought of.

1.1.5. Objectives of the project

This project has been selected with following specific objectives in view:

1. To minimize safety hazards to hospital staff, patients and their attendants
2. To improve the quality of hospitality services and patient satisfaction
3. Optimization of cost and performance over time
4. Better monitoring, efficient and effective management of ancillary services

1.2 Approach & Methodology, studies, surveys including data collection, analysis

Approach

The approach to the project involved a deep understanding and analysis of,

1. Services provided and size of K.C. General Hospital, Malleshwaram.
2. Analysis of non clinical services in these hospitals
3. Analysis of the existing outsourced services of KCG hospital
4. Analysis of the problems faced by hospital in facility management
5. Determination of the needs of providing FMS on management contract
6. Analysis and cost estimation of FMS in hospital

Methodology

iMaCS conducted the analysis through both primary and secondary studies, the primary analysis involved,

1. Study of the hospitals and analysis of the facilities
2. Discussing with multiple vendors providing facility management services

The secondary analysis involved,

1. The secondary research comprised of analyzing different reports and understanding the implementation of similar projects in different states
2. Study of reports on PPP implementation in healthcare
3. Study different sites in Karnataka and select the pilot sites on basis of that analysis
4. Study of NABH standards and method of accreditation
5. Study of health care policies at national as well as state (Karnataka) level

Chapter 2 - Sector Profile

2.1.Karnataka Health Sector

Karnataka is a pioneer in the provision of public health services and has developed a wide spread network of health services. The state has established a number of PHUs for providing comprehensive health facilities to its citizens. It follows the national pattern of Government three-tier centers and sub-centers. It also has a large number of NGOs/ voluntary organizations involved in service delivery, community health, and development, provision of health infrastructure through the primary health centers, health units, community health training, research, advocacy, and networking. It is also implementing various national programmes like Malaria, Leprosy, Tuberculosis, Blindness, and AIDS.

Health Indicators & Health Infrastructure of Karnataka

Karnataka is one among the better performing states in providing universal health care, the comparative figures with that of the national average below depicts the same,

Table 2-1: Demographic, Socio-economic and Health profile of Karnataka State as compared to India figures*

S. No.	Item	Karnataka	India
1	Total population (Census 2011) (in millions)	61.13	1028.6
2	Decadal Growth (Census 2011) (%)	15.67	17.64
3	Crude Birth Rate (SRS 2009)	19.5	22.5
4	Crude Death Rate (SRS 2009)	7.2	7.3
5	Total Fertility Rate (SRS 2009)	2	2.6
6	Infant Mortality Rate (SRS 2009)	41	50
7	Maternal Mortality Ratio (SRS 2007 - 2009)	178	212
8	Sex Ratio (Census 2011)	968	940
9	Population below Poverty line (%)	20.04	26.1
10	Literacy Rate (Census 2011) (%)	75.6	74.04

Karnataka has more numbers of primary and secondary public health care facilities in the state than the prescribed norms, as reported by the NRHM data,

Table 2-2: Primary and secondary public health care facilities in Karnataka*

Particulars	Required	In position	Shortfall
Sub-centre	7369	9344 [^]	-
Primary Health Centre	1211	2195	-
Community Health Centre + Taluka Hospitals	302	177+146	-

Man power details of primary and secondary public health care facilities in Karnataka is as follows,

Table 2-3: Man power details of public health care facilities*

Particulars	Required	In position	Shortfall
Multipurpose worker (Female)/ANM at Sub Centers & PHCs	10338	8028	2310
Health Worker (Male) MPW(M) at Sub Centers	-	3762	4381
Health Assistant (Female)/LHV at PHCs	2195	1170	1025
Health Assistant (Male) at PHCs	2195	837	1358
Doctor at PHCs	2195	2814	-
Obstetricians & Gynecologists at CHCs	323	215	108
Physicians at CHCs	323	192	131
Pediatricians at CHCs	323	116	207
Total specialists at CHCs	1292	691	601
Radiographers	323	30	293
Pharmacist	2518	1983	535

Laboratory Technicians	2518	1242	1276
Nurse	4456	1647	2809

The other public health care institutions are,

Table 2-4: Other public health care facilities in Karnataka*

Health Institution	Number
Medical College	36
District Hospitals + Teaching Hospitals	17 + 10
Referral Hospitals	57
City Family Welfare Centre	2
Rural Dispensaries	176
Ayurvedic Hospitals	122
Ayurvedic Dispensaries	589
Unani Hospitals	13
Unani Dispensaries	51
Homeopathic Hospitals	20
Homeopathic Dispensary	42

Six government hospitals in Karnataka have won ISO-9008 certification.

*Data from NRHM state website.

^ Data as provided by KSHSRC.

2.2.Regional profile

The trend of providing the facility management services of public health facilities on Management Contract to private service providers has already commenced in Karnataka. It is still at initial level and currently only Housekeeping and Security services of KC General Hospital Malleswaram are being provided by local private players. The main objective of outsourcing is to reduce the financial and/or administrative burden from the hospital administration rather than enhancing the quality of 'care' services. So during the selection, preference is given to local private service providers over national private players because of their lower cost of services. However this service delivery model is not producing the benefits of management contract due to following reasons:

- Local private service providers do not have the requisite skills and experience of working in hospitals where service requirements are different from other commercial & industrial institutions.
- In order to make profit from low budget business, local players hire new untrained work force and cut corners on consumables.
- Mechanization is deliberately avoided to keep the operational cost low.
- State and district management hire different service providers for different service components of facility management. This has resulted in 'fragmentized management contract model' which is counterproductive.

2.3.Key Issues

The key issues in provision of facility management services on Management Contract are:

1. Finding and choosing the right agency for management contract
2. Cultural differences between the principal employer and private agency
3. Lack of emotional attachment and accountability of the employee to the organization lead to poor quality of services
4. Sometimes maintaining discipline becomes challenging
5. Managing adherence to internal processes and protocols by people deployed under management contract positions becomes difficult
6. Dependency, lack of control, unpredictability, occasionally higher costs, lack of alignment with overall strategy and culture are few of the challenges comes with management contracts.

Chapter 3 - Market Assessment

3.1. Industry Outlook

As far as the size of the industry is concerned, there is no established figure; however, industry experts and insiders estimate that the Indian FMS market in general is worth Rs 400 to Rs 500 crores. Its average growth is around 50 percent to 60 percent per annum provided the industrial and commercial activity of the country.

3.1.1. The Current Trends in Hospitals

Hospital administrators are divided on their opinion on provision of their non-core services on management contracts. Many hospitals prefer to outsource their dietary, housekeeping, laundry and security to external agencies as the investment in equipment is huge in case of areas like dietary and laundry services in a hospital. Also, creating infrastructure to render services and most importantly managing the manpower at this level and regulating their rate of absenteeism, unavailability, and uncalled legal issues is difficult, hence, hospitals today prefer focusing on medical care & latest technology and offloading the ancillary services to experienced facility management agencies.

However, there are few other corporate hospitals, which prefer to provide in-house facilities rather than giving it on management contract. Their administration is of the view that management contract of ancillary services adversely affects the quality of hospital healthcare services. The vendor may not comply with the qualifications and the required job specifications while hiring the people, they may cut corners in various ways whether it is salary, material, or machine resulting in service quality deterioration.

3.1.2. Key service providers operating out of Bangalore

Not all private facility management agencies cater to hospitals due to its specialized service requirement for critical areas. List of key experienced private agencies offering services to hospitals and operating out of Bangalore are provided in annexure along with their brief details.

3.2. Opportunities and demand projections

Based on its interaction with industry experts and insiders iMaCS predicts that following factors bode well for the industry future:

1. More hospitals now use ancillary services as a positioning tool to build patient's perception & attract quality conscious healthcare seeking population, to improve credibility and to differentiate itself from peers.



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2. Entrance of new well-managed and well-equipped FM companies in the Indian healthcare sector is increasing the competition among them to capture the market and raising the service quality standard. Clients will have more options at comparatively lesser cost.
 3. Emerging Insurance-payer market where insurance companies negotiate on behalf of patients to extract full value for money
 4. Increased awareness among general public who demand better services

Chapter 4 - Project

4.1 Description of the Project

In order to strengthen the service delivery of the hospital to the patients and public, Karnataka Government planned to provide the facility management services of the hospital on Management Contract. For this the project plan is to club all the non clinical services of following two hospitals in Bangalore and give it to a private firm on Management Contact as pilot project

- K.C. General Hospital, Malleswaram
- Jayanagar General Hospital

Under the project the non clinical services of the hospital like housekeeping, security, dietary service, parking management, laundry service, equipments maintenance, AC, power backup, etc will be given on management contract to one or two private agencies to provide the services in the hospital. There will be a structured monitoring mechanism of the services provided by the Government.



4.2 Components of the project

The project will have following component

Dietary Service and Canteen:

- Patients dietary service including special diet prescribed by doctors or dietician
- Provide canteen service to hospital staff and patients visitors/attendants

Housekeeping Service & Pest control:

The hospital housekeeping service and pest control of the entire hospital shall includes:

- Cleaning of floor areas, Toilets, Bathrooms & sinks

- Specific disinfectants and chemicals should be used invariably every time for cleaning of the toilets
- Cleaning of toilets, bathroom and sinks and maintenance in a sanitized condition is extremely important from the point of overall sanitation of the hospital
- Dusting/cleaning of electric fixtures, furniture, work stations, glass partitions and telephones
- Pest control activities in the hospital to be perform every month
- Soiled linen to be collected and transported to the laundry area for the cleaning

Scope of Housekeeping Service:

- Daily sweeping and wet moping all on continuous basis with quality floor cleaning lotion
- Cleaning and moping of all toilets and bathroom on regular intervals with specific quality cleaning materials dedicated for each area as per WHO standard and infection control standards
- Providing urinal cakes in urinals, filling up liquid soap in wash basins using disinfectants daily to keep all the area hygienic
- Cleaning furniture with dry cloth
- Cleaning and sweeping public utility areas
- Dusting and cleaning glass doors, windows, light fittings, exhaust fans, sign boards, etc.
- Cleaning al telephones including intercoms and super phones
- Polishing, buffing and cleaning of marbles, ceramic tiles and various other stone surfaces

Cleaning of patient rooms and wards:

- Waste collection and disposal daily morning and after lunch time
- Dusting and sweeping rooms before doctors round
- Toilet cleaning and antiseptic moping at regular intervals as per infection prevention standards and WHO standard
- Usage of area specific chemicals for infection prevention
- Cobweb removal, cleaning of fans and light fittings are done when the time of discharge and when required
- Dusting and application of disinfectants to furniture, windows and telephones daily morning

- While cleaning the discharge room all dust and cobweb to remove and scrub floor by long handle scrubbers with soap solution. Also application of disinfectant
- Additional cleaning other than routine cleaning as and when required

Housekeeping in ICU/Pre and Post OT areas and OT:

- The assigned housekeeping staff to work in the respective area under the supervision of the Nursing staff, but directly reporting to the housekeeping supervisor
- Dry dusting of the patient unit and all furniture, equipments and floors
- Wet moping with soap and water daily
- Antiseptic cleaning is done as per the direction of the Nursing staff
- Usage of area specific chemicals, combinations and sequences of cleaning as per infection control policy
- Toilets to be cleaned twice a day with antiseptic lotion
- Additional cleaning as and when required
- Arranging all activities of coordination with other agency in taking out soiled linen, medical equipments etc. for washing and sterilization
- Fumigation of the OT premises at regular intervals as per the infection control policy

Housekeeping for public floor:

- The assigned housekeeping staff to work in the respective area under supervision
- Proper disposal of garbage
- Sweeping and mopping of floors, wall corners, windows etc. daily with detergent
- Periodically checking and cleaning of toilets
- Dry dusting of wooden surfaces
- Other than routine cleaning additional cleaning may be required as and when required
- Fans and light fittings to be cleaned weekly or when necessary
- Wash basins to be cleaned with cleaning powder every morning and as and when required
- Ceiling dusted to remove cobwebs and dust accumulation every week
- Daily cleaning of glasses, glass doors and dusting of aluminium railings and frames

Security and Parking:

The entire security service of the hospital and parking management of the hospital includes:

- 24 hours security service of the hospital
- Crowds management in OPD, IPD and other areas of the hospital
- Security personnel to take initiative during disaster management and safety management of the hospital in coordination with other staff of the hospital
- Vehicle parking system to be manage properly to reduce crowding in the hospital campus
- Parking lot to be maintain properly and parking charge to be collected as per agreement with the hospital

Laundry:

Laundry service of the hospital will includes

- Cleaning, washing and pressing of hospital bed sheets, OT gowns, and other hospital linens
- Cleaning of soiled linens with disinfectants and washing
- Hospital linen management

Biomedical Wastes Management:

Biomedical wastes management of hospital shall adhere to the existing applicable laws and regulation of the country and the state

Engineering Services:

Power Backup:

Power backup of the hospital includes:

- Power backup of the hospital during power cuts in the hospital
- Managing supply of diesel for power back up
- Maintenance of electrical works

AC Plant Maintenance:

- Maintenance of centralised / standalone ACs

Civil Engineering and Plumbing and water supply maintenance:

- Maintenance of minor civil work and plumbing of the hospital
- Assurance of 24 hours running water in the hospital

Hospitals may have dharamsala, health training centre or other associated buildings for service provision and convenience of patients and their relatives. However this pre-feasibility report does not include these ancillary facilities in the scope of work. If GoK wishes to offload this burden from the hospital administration, these ancillary units can be included at the project feasibility stage.

4.3 Description of the site

Malleswara or Malleshwara, located in the north-west of Bangalore, derives its name from the famous Kaadu Malleshwara temple. Originally a village named Mallapura, Malleshwara was developed as a suburb during the great plague of 1898, which caused many people to move out from the city center. Malleswaram is well connected by the Bangalore Metropolitan Transportation Corporation buses (BMTC) with the downtown and other localities in Bangalore. Sampige Road and Margosa Road are the two main roads running through the heart of Malleswaram.

4.3.1. K.C. General Hospital:

KC General Hospital is one of the ancient and renowned hospitals established before the independence on 30th August, 1939 the foundation laid and from 24th November 1940 it came into operation. Started as 30 bedded and presently providing the comprehensive services with 479 bed strength. A brief of K.C.General Hospital is;

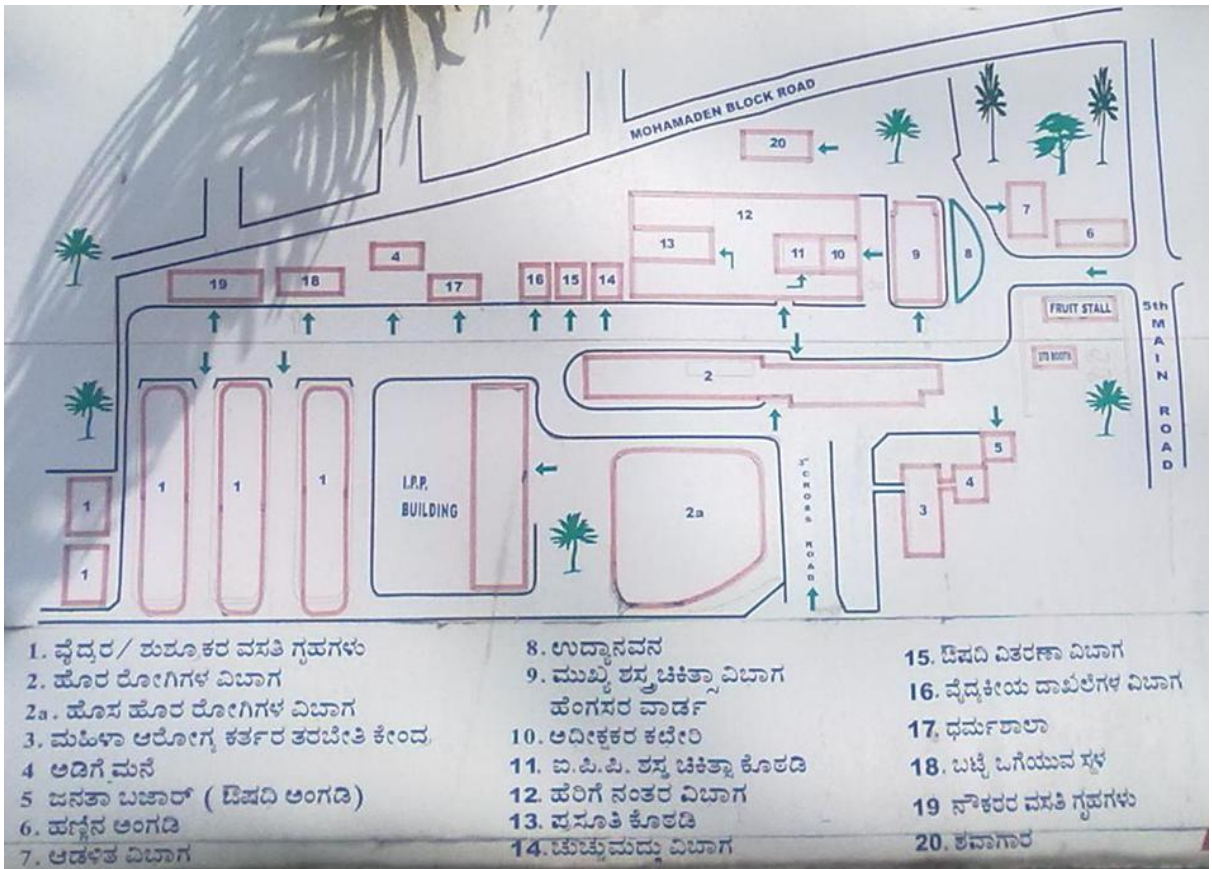


Table 4-1: Malleswaram Hospital Bangalore Fact sheet

Name of the Institution:	KC General Hospital, Malleswaram
Size of hospital (no. of inpatient beds):	479
Scope of services:	General hospital
Name of owner entity:	Government of Karnataka
Status of owner entity:	State Government
Superintendent In Chief:	Dr. Chandra Prabha
Registered office/address:	KC General Hospital, Malleswaram Bangalore
Future plans:	NABH Accreditation

- Total area of the facility is 13 acres.
- Built up area is 8 acres
- At present the hospital does not have centralised AC but has future plans to set up centralised AC by demolishing area near to the CSSD. This is a requirement in view of the hospital applying for NABH accreditation.
- The hospital complex consists of 7 buildings. The detailed layout is shown below:

4.3.2. Hospital Layout:



Index for site map -

1. Doctors Quarters	8. Garden	15. Drug distribution centre
2. OPD (Old)	9. Major OT (female surgical ward)	16. Medical Record department
2.a New OPD	10. M. S. Room	17. General
3. Female Medical Ward	11. IPP surgical OT	18. Laundry
4. Kitchen	12. Geriatric ward	19. Labour rest rooms
5. Pharmacy	13. Labour/ Delivery room	20. Mortuary
6. Fruit Shop	14. Injection room	
7. Admin Office		

Department wise break up of K C General Hospital Building, Malleshwaram

Building	Floors	Departments
Building No. 1	Single	Admin Office
Building No.2	Ground	Female Medical Ward
	First	Major OT
Building No. 3	Ground	a. M. S. office/ N. S. Office
		b. Gynae ward (special)
		c. Labour ward

		d. Main store/ sub store
		e. Family Planning OT (renovation is in process)
		f. Mediation room
		g. CSSD, Centralised Oxygen plant
	First	NICU, ICU, DIALYSIS, Post operative gynae cases
Building No. 4	Ground	Gynae OPD
	First	ICTC
Building No.5	Single	Under construction for main store
Building No.6	Ground	MRD, Dental OPD, Blood Bank, Paediatric OPD, Help Desk, Casualty, Minor OT, Radiology Department, RNTCP, Surgical OPD, Surgeons/ Doctors room
	First	Paediatric ward, Male Orthopaedic, Medical, Surgical, Special ward, ENT, generator room
Building No. 7	Ground	OPD: Medical, Physiotherapy, Injection room, immunization, ECG, Skin, Laboratory (Biochemistry, Pathology, Microbiology), eye, X- ray (Ortho OPD), Pharmacy.
	First	Not yet utilized

4.4 KCGH Malleswaram – As Is Analysis

To understand the current situation in KC General Hospital Malleswaram, iMaCS visited hospital and collected data related to the hospital equipments in place, number of beds in the hospital, the medical officers available. We interacted with the medical superintendents, physicians, administrative officer, biomedical engineer and medical records officer in the hospitals to get relevant data.

Hospital has all the basic specialities and caters to local as well as referrals from nearby CHCs and Taluka Hospitals. Broad specialities and departments available in this hospital have been tabulated below;

Sl. No	Department Available
1	OPD
2	Emergency 24*7
3	General Medicine
4	General Surgery
5	OBG
6	Orthopaedics,
7	Paediatrics,
8	Geriatrics
9	E.N.T
10	Ophthalmology
11	Skin
12	Dental surgery
13	Psychiatry
14	ICU
15	NICU/SNCU
16	Dialysis
17	Laboratory
18	Radiology
19	Blood Bank
20	Physiotherapy

Hospital also has critical care units and specialized wards for patients. Unit / ward wise bed distribution is as below;



Specialities	Bed Strength
ICU	6
Dialysis	11
SNCU	12
Disaster Management Ward	9
ART centre	

Hospital also has Major and Minor OTs. Major OT has four operation tables where IPP and ophthalmic surgeries are carried out. Minor OT has two operation tables for minor interventions.

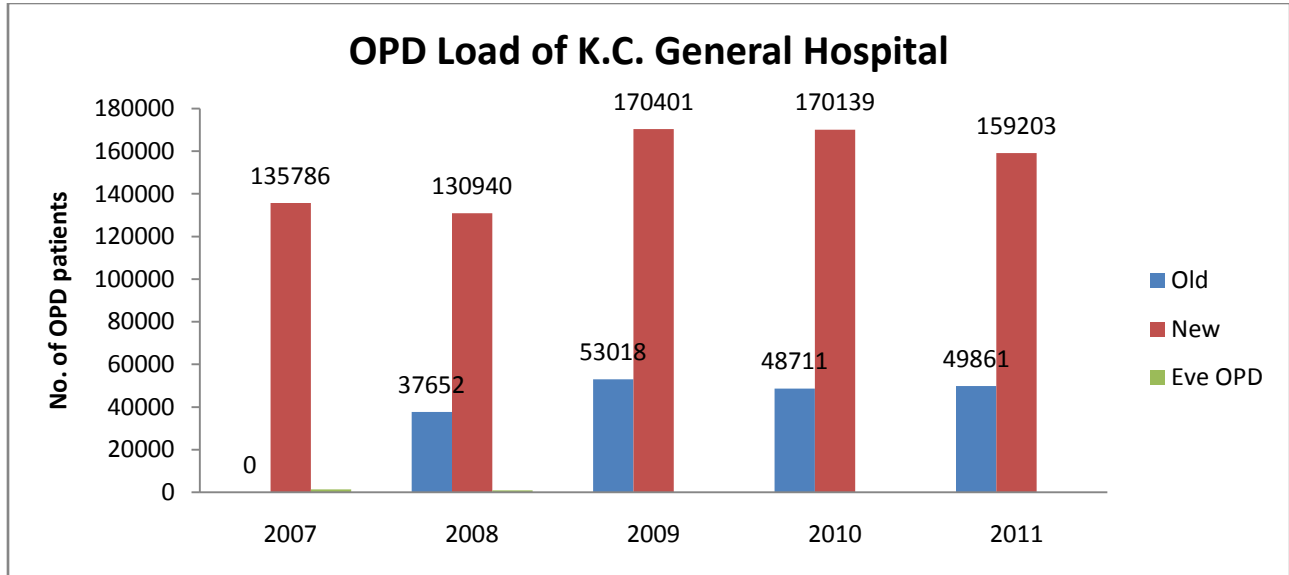
Besides this hospital has following support services;

- Pharmacy
- Blood bank
- Lab diagnostic facilities like
 - Hematology
 - Microbiology
 - Biochemistry
 - Pathology
- ECG
- Imaging diagnostic facilities
 - USG
 - Colour Doppler
 - X-ray

4.4.1. Utilization indices of K. C. General Hospital:

Total OPD of the hospital ranged from 130940 to 170401 over the past 5 years. Year on Year (YoY) patient footfall in hospital OPD is shown in the following graph;

Figure 4-1: OPD load of K.C General Hospital



Total IPD of the hospital ranged from 18298 to 22459 over the past 5 years. Bed occupancy Rate¹ of the hospital has steadily increased from 79% in 2010 to 85% in 2012. Number of LSCS surgeries gradually increased from 1798 to 2836 over 5 years. Year on Year (YoY) variation in Hospital's key performance indicators are shown in the following graphs;

¹ Bed Occupancy Rate (BOR) is defined as the number of hospital bed days divided by the number of available hospital beds multiplied by the number of days in a year.

Figure 4-2: IPD load of K.C General Hospital

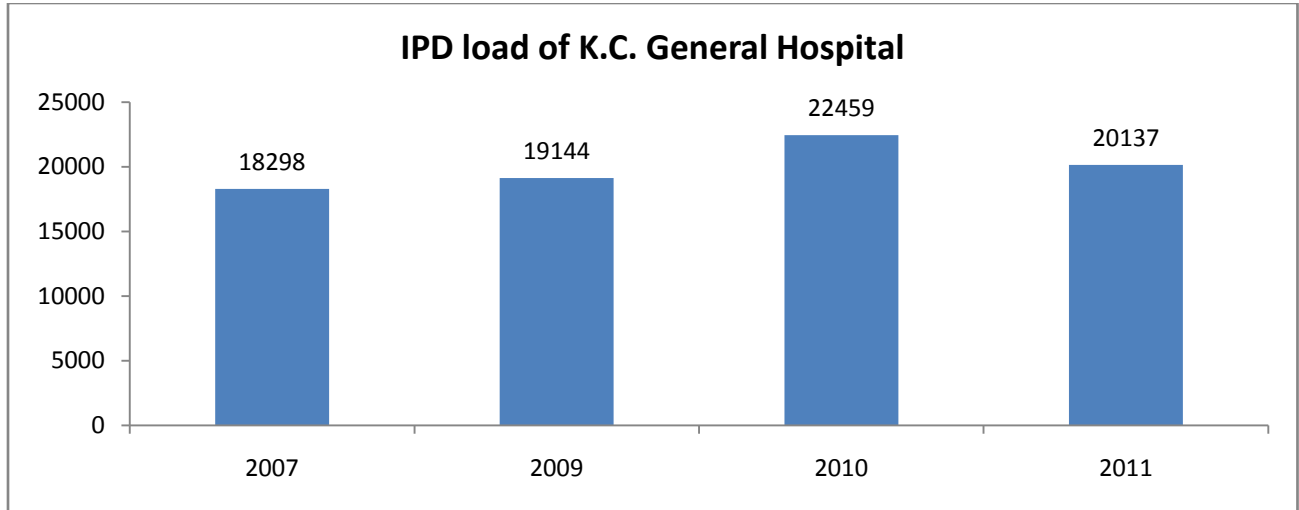


Figure 4-3: Bed Occupancy Rate of K.C General Hospital

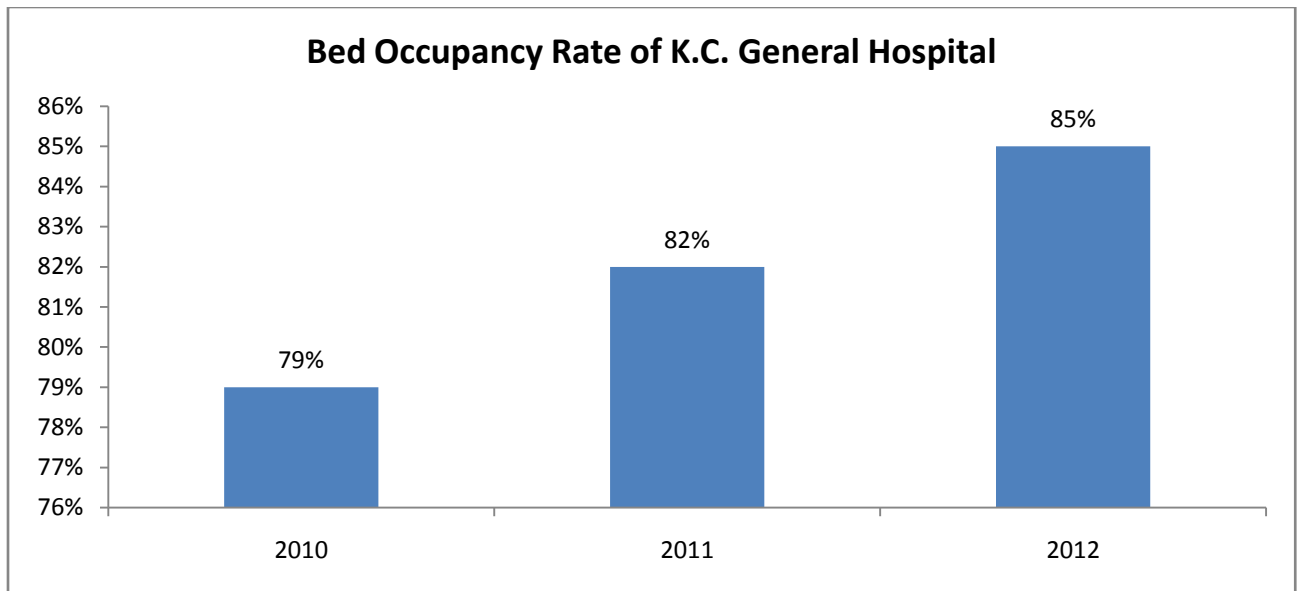
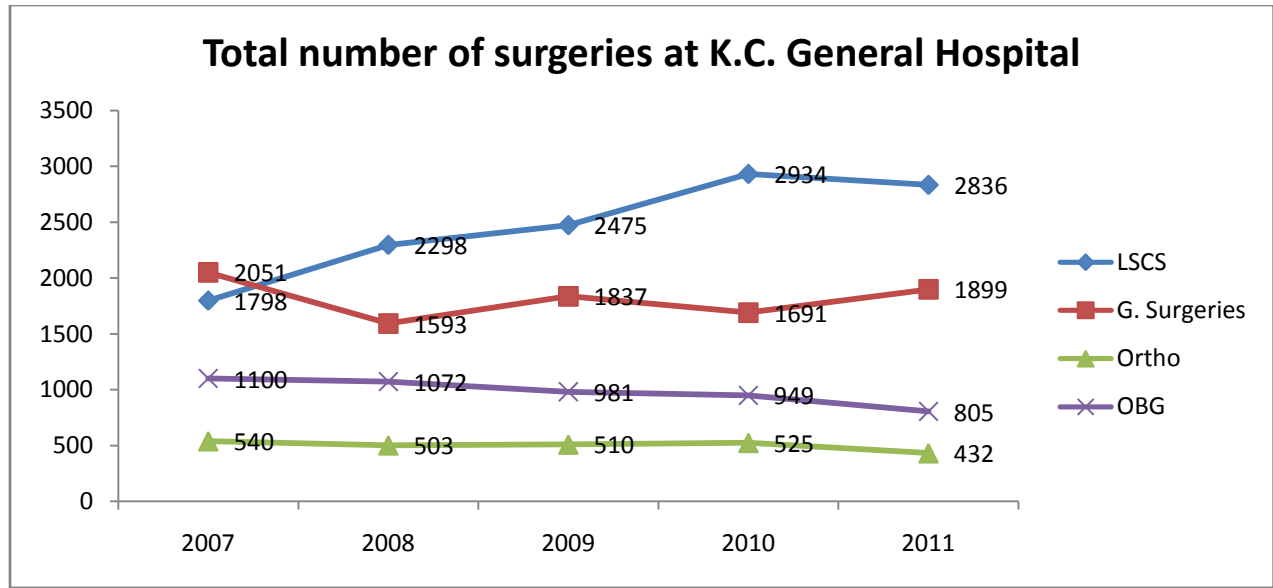


Figure 4-4: Total Number of Surgeries Undertaken at K.C General Hospital Annually



4.4.2. Utility service details of the hospital:

The present position with regard to provisioning of utility services in KCGH is;

Laundry Services

The hospital has an in-house mechanized laundry with 2 washing machines one with 70kg load and other with 30 kg load. Hospital also has 2 washing filters and 2 dryers in the laundry. On an average 300 bed sheets and about 90 OT Gowns are washed in 2 to 3 cycles per day.

The average bed sheets generated for washing in the hospital is around 300-350 per day. Currently the laundry services are not following the standard / benchmarked practices for hospitals e.g. soiled linens are not treated in disinfectants prior to washing.

Housekeeping Services

Housekeeping and security are out sourced to Srinivasa agency on contract basis. Materials are brought by the contractor and also by hospital for cleaning purposes. Housekeeping staff are provided by the outsourced agency. Hospital class IV staffs are also engaged in some housekeeping work. The agency provides only 40 staff for Housekeeping and security. Currently the Housekeeping services are not following the standard / benchmarked practices for hospitals e.g. general cleaning is done in the hospital three times a day and no specialized method used to clean ICU and OTs.



Biomedical wastes management

BMW management is out sourced to Sambu Ramki Agency. The equipments and materials used in BMW are provided by hospital. The hospital staffs segregate the BMW and transport it to BMW storage area. The agency takes away the BMW from the storage area every day.

Dietary service and canteen

Hospital has a designated kitchen. Food for inpatients is prepared by hospital staff. Four cooks are available with the hospital. Food is served 3 times for 300 patients on average (1 breakfast and 2 meals) Coffee and bread are served in the morning and in the evening. There is no canteen service available. Currently the Dietary services are not following the standard / benchmarked practices for hospitals e.g. no quality checks of the food prepared in the kitchen is done before serving it to patients.

Medical Gas Services

Hospital has a central gas plant for supply of oxygen to OT, Labor room, ICU and NICU.

Power backup

Hospital has 3 Generators maintained by the hospital. On an average the hospital face power cut of 2 hrs per week.

- I. One 62.5 KVA, which diesel consumption is 9 lit/hr (for whole hospital)
- II. One 50 KVA, which diesel consumption is 8 lit/hr (for whole hospital)
- III. One 15 KVA, which diesel consumption is 5 lit/hr (for NICU only)

Ambulance

The hospital has 2 ambulances. These ambulances are not BLS & ALS supported.

AMC

The hospital has one in-house biomedical engineer for preventive maintenance check for the critical equipment. The hospital has a regular AMC of some major equipment with the suppliers.

List of equipments available in the hospital and manpower available is given in the annexure.

Sewerage treatment plant

The hospital has a waste water treatment plant in the campus, where waste water is treated. The treated water is used in the toilets of the hospital

Other Services

- Provision of Parking is out sourced. Separate parking locations are available for two wheelers, Autos and four wheelers. For two wheelers the parking price is Rs 3, for autos it is Rs 5 and for four wheelers it is Rs 10. A separate parking area is available for the hospital staff.
- There is a May I help you desk in the hospital. Staff for this is provided by NRHM on contract basis.

4.5 Case Study of District Hospital Sheopur, Madhya Pradesh

District Sheopur is located at north-western part of Madhya Pradesh and forms the boundary between Rajasthan and MP states. It has a 100 bedded district hospital, until 2011 the housekeeping services of the hospital were compromised due to the shortage of manpower and lack of accountability among the existing workforce. Poor storage and disposal of hospital waste posed health hazards to public visiting hospital. Due to poor sanitation, environment of the hospital was unhealthy and it was impacting its reputation and utilization by district population. Some private clinics came up across the town and were preferred by the public. For higher consultations, emergencies and specialized treatments people prefer going to nearby cities of Sawai Madhopur and Kota.

In the last quarter of 2011, district administration decided to give hospital's housekeeping services on Management Contract to some reputed private agency with an objective to improve the quality of hospital environment through mechanized cleaning. Delhi based facility management private agency, BVG India Ltd was selected through a proper transparent tender process. The agency surveyed the hospital and collected requirements for effective housekeeping services based on the hospital infrastructure, floor conditions and surrounding. It brought in trained manpower, experienced supervisor, latest machines, chemicals & consumables and commenced housekeeping work in district hospital from January 2012.

There has been a marked change in the hospital ambiance since then. Use of trained manpower, latest machines, chemicals, & disinfectants removed dust, strains, and marks even from areas that are comparatively difficult to reach by manpower. Satisfaction and motivation level of the hospital staff increased. Reputation of the hospital improved because of media coverage to revamped hospital upkeep. It is resulting in the increased utilization of the facility, as patients now prefer to visit hospital for their medical needs.

This experience of giving housekeeping services on management contract has been very good and satisfying for the district hospital administration also as it was very difficult for them to keep hospital clean 24x7 due to dearth of trained manpower, funds, and irregular supply of consumables.

4.6 Project Design

Health is a social sector service and often seen as the responsibility of the Government to its citizens. Thus while designing PPP in healthcare, sensitivities of the public have to be factored in. It cannot be designed in a way which will levy any charge on the public. Hence, there is no direct revenue stream which could be determined for the private service provider for facility management in hospitals. Given the peculiarities of the sector along with the nature of services that need to be rendered, the model that best fits the situation is the model of ‘Management Contracts’.

Management Contract²

A management contract is one of the simplest forms of PPP. It is typically a contractual agreement for the management of a part (or whole) of a public enterprise by the private sector. Management contracts allow private sector skills to be brought into service design and delivery, operational control, labour management and equipment procurement. However, the public sector retains the ownership of facility and equipment. The private sector is provided specific responsibilities concerning a service and is generally not asked to assume commercial risk. The private contractor is paid a fee to manage and operate services. Normally, the payment of such fees is performance-based. Capital investment is typically not the primary focus in such arrangements. Such contracts of less than three years duration are not included in the definition of PPP in India.

Table 4-2: Broad Characteristics of Management Contracts in India

Asset ownership during contract	Public
PPP Duration	Short to Medium Term (i.e. 3 to 5 years)
Capital investment	Not the focus
Private partner revenue risk and compensation terms	Low (Pre-determined fee, possibly with performance incentives)
Private partner roles	Management of all aspects of operation and maintenance

² <http://toolkit.pppinindia.com/solid-waste-management/module1-oopmv-tmpmf.php?links=oopmv1b>



<p>Features</p>	<p>This involves contracting to the private sector most or all of the operations and maintenance of a public facility or service. Although the ultimate obligation of service provision remains with the public authority, the day-to-day management control is vested with the private sector. Usually the private sector is not required to make capital investments.</p>
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Management contract for Facility Management in KC General Hospital Malleswaram

The project involves provision of facility management of non clinical services of the hospital to a private service provider on management contract. GoK wishes to provide all service components of facility management of KC General Hospital Malleswaram through one private service provider for effective and efficient achievement of project objectives. However our research revealed that no agency offers all services components of facility management for hospitals. Many private service providers also expressed their reluctance to provide all service components under one umbrella for fear of diluting their core competence. Few companies, given the mandate, are ready to arrange it for hospital. However this arrangement will increase the cost of service delivery.

So after the industrial interaction and analysis, IMaCS proposes ‘Optimum Bundling’ of service components and giving management contract to a consortium of two or three private service providers for getting the best of service quality.

Bundling of Facility Management Services

The facility management services will be grouped together in three groups; a concept known as bundling. IMaCS suggests following bundles of services:

<p>Facility Management Services of KC General Hospital, Malleswaram</p>		
<p>Group - 1</p> <ol style="list-style-type: none"> 1. Housekeeping 2. Pest control 3. Security 4. Gardening 5. Electrician 6. Plumber 	<p>Group - 2</p> <ol style="list-style-type: none"> 1. Dietary services 2. Canteen services 	<p>Group - 3</p> <ol style="list-style-type: none"> 1. Laundry services and Linen Management

The project is designed to be offered on 'Management contract' to a consortium of two or three companies having the capability to manage above mentioned FMS bundles, the bid variable being the cost at which these services are provided. The agreement will be between a consortium of service providers and the government, where the consortium is in charge of procuring and managing the manpower, equipment & materials and providing the service as per the laws and regulations that govern the process.

The primary roles and responsibilities of the two parties involved are as follows,

Roles and Responsibility of the Service Provider

1. Recruiting the trained manpower for provision of quality services
2. Providing the necessary equipment for mechanization
3. Manning and operating the different FM services 24X7 as per the terms of reference
4. Maintaining the supply chain of consumables
5. Adhering to the applicable laws and regulations
6. Reporting as per the expected norms of the terms of reference
7. Co-coordinating with the hospital staff for delivering the services
8. Auditing the centre as per the norms of the organization for service delivery and expenditure incurred
9. Providing administrative and financial support where necessary
10. Sub-meters for electricity and water supply shall be installed and bills to be paid by the consortium.
11. Monthly report shall be submitted to designated hospital authorities by the consortium.
12. On the expiry or earlier termination of this Agreement, the said hospital space / room / equipments / machines shall be vacated peacefully and handed over to hospital authority in the condition they had received.

Roles and Responsibility of the Government/District Hospital

The Government/ Hospital shall support the private partner by,

1. Ensuring access to Electricity, Steam and Water supply.
2. Available machines and equipments shall be provided by hospital authority for the purpose of running the laundry.
3. Ensuring minimum number of diets per month.
4. Timely payment of dues to the consortium
5. To specify and regularly check the quality of raw material and consumables used by service provider
6. Monitoring of FMS service provision by the consortium



Contract Period

It is proposed that the Facility management services are given on management contract for a period of 5 years, following which it will be rebid. Industry experts prefer five-year contract period to hedge risks and minimize opportunity cost associated with the 'Management Contract' project.

Cost of Service

The consortium shall charge the government a fixed amount towards the FM services provided, this shall be the bid variable during the process for finalizing the consortium. The government shall revise the service cost every five years as per the prevailing cost of inflation and service delivery.

Chapter 5 - Project Financials

iMaCS follows the “Whole Life Cycle Costing” concept for calculation of project financials. This project is unique due to following challenges,

- a. Number of non clinical services bundled in FMS
- b. Variety of services
- c. Costing of each service is further a function of many factors
- d. Very difficult to quantify the “Quality” of the service required

Interaction with private facility management service providers brought out different patterns of costing for different variety of services. As per the industry norm, all private players give their cost estimation only after doing the facility survey by their own experts, so in order to reach the ‘Ballpark’ cost figure; iMaCS took the most prevalent costing pattern and values of the FM industry.

Costing for KCGH Malleshwaram Hospital, Bangalore:

This hospital is 350 bedded and has total area of 9.6 acres with built up area of 6 acres. Following services will be bundled together under Facility management;

1. Housekeeping service and pest control of the entire hospital
2. Dietary services and cafeteria service in the hospital
3. Security service and Parking management of the hospital
4. Laundry and linen management of the hospital
5. Power backup, electrical and HVAC maintenance of the hospital
6. Engineering and plumbing maintenance of the hospital
7. Biomedical Wastes Management
8. Landscaping
9. Fire Safety

5.1.Scenario Analysis

Two scenarios are being discussed for this project. First scenario will be for ‘In-house services’ to be provided by GoK for enhancement of current quality of services and second scenario will be for ‘Facility Management Services on Management Contract’ to be provided by a private service provider for enhancement of current quality of services.

There are two important points to note before this analysis,

1. Hospital is planning to undergo NABH accreditation, for which the status of facility services is not adequate to meet the quality standard. Status quo in operations will not fulfill the government objective. **Improvement in the quality of care could be achieved through greater specialization and use of machinery in the hospital rather than by merely increasing the**

number of manpower. So even for in-house facility management for quality up-gradation, GoK needs to increase adequately trained manpower, bring in latest machines as per the hospital infrastructure and implement standardized operating procedures & strict regular monitoring.

2. Laundry, Dietary and fire safety services involve installing machines at the site. This requires huge capital investment and results in asset generation at the location that cannot be shifted every five years. Therefore, GoK should enable these investments because it will not be financially feasible for the external agency to create the assets for five year period.

Calculations of financials for these scenarios separately will result in “Value for money” analysis and better decision making by the officials concerned.

5.1.1. Scenario – 1, GoK providing in-house services

Housekeeping and Security services in KC General Hospital Malleswaram are outsourced at present. However the quality of services is not as per desired standard. Basic reason for this is the non availability of adequate manpower for this service. In order to ascertain the adequate manpower requirement for providing quality FM services, IMaCS referred following texts

- i. IGNOU modules of Hospital administration
- ii. Principles of Hospital Administration & Planning by B.M. Sakharkar, 2nd edition 2009,

Estimation of the cost of enhancing in-house facility management services is based on revised manpower requirement. This costing is based on the assumption that GoK will hire manpower on contract to provide these services at hospital. Therefore, this workforce will be paid minimum wages per month as per the state policy and will not be eligible for any other service perks / benefits. However the following components will be part of their salary:

- a. ESI contribution of GoK
- b. P.F contribution of GoK
- c. Bonus
- d. Leave wages (CL, PL)
- e. National & Festival Holidays

Due to the lack of available information on percentage contribution of each component stated above in employee’s monthly salary, IMaCS assumes that all components collectively add up to 50% of the basic salary.

Cost of provision of augmented ancillary service delivery in KCGH Malleswaram will be the sum total of following subcomponents;

Housekeeping Services:

Type of manpower	Manpower Number required			GoK's minimum manpower wages	Total cost of manpower (in Lakhs)	Est. cost of consumables	Total Cost per annum (in Lakhs)
	Daily Manpower	Reliever (25% of Daily manpower)	Total	Per month (in Rs.)	(80% of total cost)	(10% of total cost)	
Sanitary Attendant	50	13	63	7575	56.8	12.8	115.18
Maid	13	3	16	7575	14.2		
Mopper	20	5	25	7575	22.7		
Supervisors	5	1	6	12000	8.6		
Total Manpower required			109				
Total Manpower cost					102.38		

Laundry Services:

Type of manpower	Number required	GoK's minimum wages (Per month in Rs.)	Total cost of manpower (in Lakhs)	Total Cost per annum (in Lakhs)
Laundry Operator	2	7575	1.82	17.80
Supervisor	1	12000	1.44	
Orderly	6	7575	5.45	
Safai Karamchari	1	7575	0.91	
Men for extractors (6)	2	7575	1.82	
Men for Dryers	2	7575	1.82	
Men for Calendaring	2	7575	1.82	
Men for steam press (2)	2	7575	1.82	
Boiler attendant (3)	1	7575	0.91	
Total Manpower required		19		
Total Manpower Cost			17.80	

Dietary Services:

Type of manpower	Number required	GoK's minimum manpower wages Per month (in Rs.)	Total cost of manpower (in Lakhs)	Est. cost of consumables *	Est. cost of maintenance (5% of total cost)	Total Cost per annum (in Lakhs)
Chief Dietecian [^]	1	16922	2.03	65.70	5.52	115.91
Dietecian	1	16922	2.03			
Jnr Dietecian	3	16922	6.09			
Head Cook [^]	3	7575	2.73			
Cook [^]	4	7575	3.64			
Assistant Cook	8	7575	7.27			
Head Bearer	3	7575	2.73			
Bearer	10	7575	9.09			
Cleaners	10	7575	9.09			
Total Manpower required	43					
Total Manpower Cost			44.70			

[^]In public sector manpower pay increases with seniority. However due to lack of rank wise and seniority wise pay scale of Karnataka, basic payment has been considered to keep calculations simple.

*Rs. 45 / patient / day, 80% bed occupancy, 365 days

Technical Services:

Type of manpower	Manpower Number required*	GoK's minimum manpower wages (Per month in Rs.)	Total cost of manpower (in Lakhs)	Total Cost per annum (in Lakhs)
Electrician	4	16921.5	8.12	16.03
Plumber	3	16921.5	6.09	
Gardner	2	7575	1.82	
Total Manpower Required	9			
Total manpower cost			16.03	

*Manpower requirement is based on facility survey by iMaCS

Security Services:

Type of manpower	Manpower Number required	GoK's wages Per month (in Rs.)	Total cost of manpower (in Lakhs) (90% of total cost)	Total Cost per annum (in Lakhs)
Security	70	7575	63.63	72.27
Security Supervisor	6	12000	8.64	
Total Manpower Required	76			

**Manpower requirement is based on facility survey by iMaCS*

Total annual cost of in-house FMS:

Type of Service	Cost in Lakhs
Housekeeping Services	115.18
Laundry Services	17.80
Dietary Services	115.91
Technical Services	16.03
Security Services	72.27
Power consumption cost*	15.55
Water usage cost**	0.27
Total annual cost	353.01

** Housekeeping services are non-mechanized so power consumption will only be for Laundry services. For calculations per unit power consumption cost is Rs. 6.70³.*

*** Housekeeping services are non-mechanized so power consumption will only be for Gardening, Dietary and Laundry services. For calculations per liter unit cost of water usage including 20% of sanitary charge is .072 Rs per liter⁴.*

Total Manpower Requirement for 'In-house' service provision:

Manpower	Number
Housekeeping Services	109
Laundry Services	19

³ <http://www.kerc.org>

⁴ <http://bwssb.org>



Dietary Services	43
Technical Services	9
Security Services	76
Total Manpower required	256

5.1.2. Scenario – 2, GoK providing Facility Management services on Management Contract through private agency

‘Terms of Reference’ to be drafted by IMaCS for this project will encourage interested private service providers to visit hospital to get first hand information as regards its approach, accessibility, working conditions, site conditions, lay out of different wings of hospital, and other matters affecting manpower deployment, cost and work. All costs incurred in connection with submission of the bid shall be borne by the applicant irrespective of the outcome. The bidder shall have the primary responsibility to assess its business and make its own projection before bidding.

There are different ways of costing for different type of services. In order to reach the ‘Ballpark’ cost figure for provision of Facility management services on management contract, IMaCS under took detailed facility survey along with one industry expert of national repute. The details of facility survey are provided in annexure. Based on this survey the estimated cost of giving the facility management services on management contract is as below,

Total Cost of Manpower:

Category	Cost	Nos.	Unit cost / month
Housekeepers	910800	99	9200
HK Supervisors	96000	6	16000
Laundry*		19	
Gardeners	21000	2	10500
Plumbers	42000	3	14000
Electricians	56000	4	14000
Security	770000	70	11000
Security Supervisors	99000	6	16500
Total Cost of Manpower	1994800	209	

*Laundry manpower includes orderly, Safai Karamchari, Men for extractor; Dryer; Calendaring and Stream press, Boiler attendant, laundry operator and supervisors. Unit cost varies from Rs. 8366 to Rs. 12456 per month depending upon the category of deployed manpower.

Total cost of FMS on Management Contract:

Cost Heads	Monthly
Manpower	1994800
Consumables and chemicals	150000



Machinery	137404
Dietary services*	851667
Laundry Services**	175518
Sub Total	3309389
Management Fees (18% of the total cost)	595689.96
Total monthly cost	3905078.63
Total annual cost (in Lakhs)	468.61
Power consumption cost***	17.00
Water usage cost****	0.39
Total annual cost in lakhs	486

*Rs. 70/pt/day for 365 days at 80% bed occupancy. For simplicity of calculations no special diet has been taken into consideration.

**Manpower requirement assumed to be same as estimated for 'In-House Laundry Facility'. Scope of Laundry services assumed for the cost estimation is given in annexure.

*** For calculations per unit power consumption cost is Rs. 6.70⁵.

**** For calculations per liter unit cost of water usage including 20% of sanitary charge is .072 Rs per liter⁶.

Cost for BMW disposal and fire safety services will remain same for both scenarios. Parking services are not provided by private FM agencies so it will be given to local contractor.

5.2.Value for Money analysis

The comparative analysis of cost of provision of facility management services has been tabulated below:

Service	Cost Heads	Current cost of FM service provision	Estimated Cost of In-House FMS after proposed up-gradation	Estimated cost of providing FMS on Management Contract
Housekeeping	Manpower deployed / Requirement (No.)	58	109	105
	Total Manpower cost (in Lakhs)	Services bundled with Security and Outsourced	102.38	120.82
	Cost of equipments (in Lakhs)		0	15.68

⁵ <http://www.kerc.org>

⁶ <http://bwssb.org>

	Cost of consumables (in Lakhs)		12.8	18
	Total cost of HK services	2.71	115.18	154.5
Security	Manpower deployed / Requirement (No.)	0	76	76
	Total Manpower cost (in Lakhs)	Services bundled with HK and Outsourced	72.3	104.28
	Total cost of Security services	0	72.3	104.28
Dietary	Manpower deployed / Requirement (No.)	5	43	Diet @ Rs. 70/pt/day
	Total Manpower cost (in Lakhs)	8.16	44.7	
	Cost of equipments (in Lakhs)	0.1	5.52	
	Cost of consumables (in Lakhs)	47.23	65.7	
	Total cost of Dietary services	55.49	115.92	102.2
Laundry	Manpower deployed / Requirement (No.)	3	19	19
	Total Manpower cost (in Lakhs)	7.2	17.8	21.06
	Cost of consumables (in Lakhs)	4	0	0
	Total cost of Laundry services	11.2	17.8	21.06
Electrician	Manpower deployed / Requirement (No.)	0	4	4
	Total Manpower cost (in Lakhs)	0	8.12	6.72
Plumber	Manpower deployed /	0	3	3



	Requirement (No.)			
	Total Manpower cost (in Lakhs)		6.09	5.04
Gardner	Manpower deployed / Requirement (No.)	0	2	2
	Total Manpower cost (in Lakhs)		1.82	2.52
	Total cost of equipments (in Lakhs)		0	0.8
	Total Cost of service		1.82	3.32
	Sub Total	69.40	337.23	397.12
	Management Fees (18% of the subtotal)			71.4816
	Cost of Utilities (Power and Water)		15.82	17.39
	Total annual cost of services	69.40	353.05	485.99
	% increase in FMS cost on “providing services on Management Contract for quality up-gradation” than doing it “In-House”			37.66

Summary of comparison of two discussed project scenarios and current status of facility management services against different parameters of the project have been tabulated on next page:

Parameter	Current status of FM services	In-house up-graded FM services	Estimated cost of providing FMS on Management Contract
Scenario characteristics	This brings out the cost of FM services being incurred by GoK as on date. This calculation includes the cost of outsourced services (Housekeeping and security) and the in-house services (Dietary and Laundry services) including manpower for both outsourced and the permanent staff of the hospital.	In this scenario the number of manpower required to upgrade the quality of FM services is projected based on the norms given in "Hospital Administration" modules of IGNOU, 2009 edition and "Principles of Hospital Administration & Planning" by B.M.Sakharkar, 2nd edition. The cost of manpower is calculated based on the minimum wages for a contractual employee. No permanent/group D staff component has been worked into the calculations. This is a scenario where the GoK contracts directly and no permanent staff is utilized.	In this scenario cost has been worked out for the number of manpower required as per the facility survey by a private player or norms of IGNOU / Sakharkar books. The salary for staff is calculated based on the prevalent rates by private players.
Manpower Requirement	Number	Number	Number
Housekeeping Services	58	109	105
Laundry Services	3	19	19
Dietary Services	5	43	As Required
Technical Services	0	9	9
Security Services	0	76	76
Total Manpower required	66	256	209



Cost of provision of FM services	Cost (in Lakhs)	Cost (in Lakhs)	Cost (in Lakhs)
Housekeeping Services	2.71	115.18	154.50
Security Services	0.00	72.30	104.28
Dietary Services	55.49	115.92	102.20
Laundry Services	11.20	17.80	21.06
Electrician	Not available	8.12	6.72
Plumber	Not available	6.09	5.04
Gardner	Not available	1.82	3.32
Management Fee (18% of the project cost)	Not applicable	Not applicable	71.48
Cost of utilities (Power and Water)	Not applicable	15.82	17.39
Total cost (in Lakhs)	69.40	353.05	485.99
Comments	<p>Currently KC General Hospital Malleswaram does not have the provision of</p> <ul style="list-style-type: none"> • Electrician, • Plumber, • Gardner, • Mechanized HK 	<p>This scenario considers the infusion of more manpower in the hospital for FM services. So the estimated cost is for non mechanized Housekeeping services.</p>	<p>This scenario brings in external private service provider, with adequate domain experience of providing services in a hospital for provision of FM services. So the estimated cost includes</p> <ol style="list-style-type: none"> 1. Mechanized Housekeeping services 2. Management fee of the agency

Value for money analysis based only on financials would limit the overall value of this project. The advantages of providing Facility Management Services on management contract through a private service provider has to be taken in a wider perspective taking into account other factors and the impact it will have on hospital functioning, customer satisfaction & its public utilization.

A comparison of services under both the methods is provided in the table below,

Benefit	In-house FM services	Estimated cost of providing FMS on Management Contract
Quality of services	Unable to scale up and match NABH standards	Strict adherence to ensure they match NABH standards. Chapter 6 of NABH standard is Continual Quality Improvement (CQI). Under this CQI 7 makes it mandatory for the organization to have a process in place for collecting the feedback and receiving complaints from patients and staff on the services provided to them. Organization must analyze these feedbacks and complaints to ensure Continual Quality Improvement.
24X7 Availability of on-ground manpower	Not ensured	Ensured
24X7 Availability of supplies & consumables	Not ensured	Ensured
Mechanization of service delivery	Low	High
Down time of used machinery	High	Low
Need to train manpower	Required	Manpower with requisite skill sets will be deployed
Reliability	Availability of manpower not assured due to absenteeism and inadequate numbers	Availability of manpower in requisite strength assured
Concurrent assessment of manpower requirement for provision of services as per patient footfall	Scaling up the operations on account of increased patient load difficult due to prolonged procedures and sanction requirements	Immediate decision and prompt action ensures flexibility in scaling of operations based on requirement.
Administrative burden	High	Low
Operational control of hospital administration	Low	High
Patient and staff satisfaction	Low	High



Operational efficiencies and effectiveness	Low	High
Image of the hospital	Low	High

Hence, it is observed that the hospital will enjoy better services and facilities when the non-clinical services are given on management contract to an efficient service provider. It is not correct to directly compare the cost of services and judge the best case for the hospital, better management of service results in cost savings in the following fronts,

1. Better maintenance of the equipments and premises extends the performance life of the same which directly converts into visible savings
2. Better sanitation and cleanliness results in reduced cross infection and hospital acquired infection, this brings down the total cost of healthcare service delivery at the hospital
3. Better patient flow in the hospital reduces congestion resulting in efficient care and cure delivery
4. Scale up of operations to suit the forthcoming needs of the hospital is easy and can be achieved quickly
5. With better service delivery, more public visit the hospital there by resulting in improved utilization of the hospital assets and reduced private expenditure for accessing healthcare
6. The partner can be encouraged to operate canteen facilities in the hospital for public thereby generating revenues, this revenue can be utilized considered for reducing the cost of services to the government

Thus it is observed that the benefits of provision of facility management services on management contract outweighs the costs it incurs and provides quantum leap in quality of service and efficiency of service required out of a public health facility.

Broad Parameters for monitoring the Facility Management Service

The proposed parameter to be used for monitoring the output of facility management services and linking it with private player's payment from the state government is given below;

Parameter	Release of Payment to the consortium
Collection of patient feedback – separately from OPD patients and IPD patients	
<ul style="list-style-type: none"> • >95% patients satisfied with the Facility Management Services 	Full payment to the consortium
<ul style="list-style-type: none"> • >85% - <95% patients satisfied with the Facility Management Services 	90% of the payment to consortium
<ul style="list-style-type: none"> • >75%-<85% patients satisfied with the Facility Management Services 	80% of the payment to consortium
<ul style="list-style-type: none"> • <75% patients satisfied with the Facility Management Services 	No payment to consortium

Chapter 6 – Policy, Statutory and Legal Framework

Policy Framework: - Section 5.6 of the Karnataka Integrated State Health Policy 2004, provides the framework for PPP in healthcare sector. This section, under the heading ‘Public, private and voluntary sector partnerships’ states that

*“The state Policy recognizes the role of the voluntary and private sectors in public health care. Though already existing in an adhoc and often informal manner, public, private and voluntary partnerships will be further developed in a planned, systematic manner in order to develop in spirit and practice for better health care and also for optimal utilization of health resources. District and Taluk health action networks and issue-based networks will be encouraged with active participation from the public sector in such voluntary sector initiatives. **Participation of voluntary and private sector will be enhanced through outsourcing certain services, in infrastructure maintenance and investments in health services”.***

Statutory and Legal Framework: - The FMS of a hospital shall be governed by all existing bio medical, statutory and legal laws governing hospital/clinic. The service providers along with the hospital or independently as the case and situation may apply shall get itself certified for/obtain the following certificates,

1. No objection certificate from Chief Fire Officer
2. License under Bio-medical Management and handling Rules, 1998 (amendment 2011)
3. Right to Information Act
4. The Karnataka Transparency in Public Procurements Act, 1999
5. The Karnataka Industries (Facilitation) Act, 2002
6. Consumer Protection Act – 1986
7. Minimum Wages Act 1948
8. The Contract Labour (Regulation and Abolition) Act 1970
9. Environment Protection Act 1986

The status of the compliance shall be verified during the annual audit conducted by the government.

The role of the regulatory body is seen as a neutral operator between the public and private sectors whose primary interest is the benefit of the general public benefiting from the system, but regulatory body is also aware and active in mitigating potential sources of conflict within ‘Management Contract’ arrangements.

Chapter 7 - Indicative Environmental & Social Impacts

7.1.Environmental Impacts

There is no adverse environmental or social impact due to the facility management services of the hospital. The hospital will generate bio medical waste in which the operator has to follow the existing and applicable laws and regulations for handling BMW.

The project would offer a better support to the hospital of Karnataka by providing effective FMS and hospital could focus on core medical services to the patients. It would reinforce the commitment of the government towards the welfare of its constituents.

7.2. Social Impacts

Facility Management service will be accessible to all the citizens irrespective of his/her region, urban/rural location, gender, social and economic groupings. This will also bring equity in healthcare services which also encompass disadvantaged groups (Scheduled Castles and Tribes) and vulnerable groups (street children, elderly). Other social impacts of this project are;

- Improved utilization of public healthcare facilities
- Enhanced patient as well as doctor / staff satisfaction
- This initiative will also help state government to achieve its goal of safeguarding the population against environmental health hazards. This will bring major gains in terms of human well-being, development and economic productivity.
- Society will get the best of public and private services at one place i.e. private sectors quality and efficiency at public rates.
- Employment for the trained manpower required for operating the centre
- Streamlined operation and efficient work culture of private partner will impact the public healthcare functioning in the long run.

Chapter 8 – Operating Framework

8.1. Project Structure at a Glance

Sl No	Parameter	Description
1	PPP Model	Management Contract
2	Concession Period	5 years. After the completion of 5 years, it will be rebid.
3	Concession Component	Right to provide Facility Management Services as per Terms of Reference
4	Government Support	<ol style="list-style-type: none"> 1. Ensuring water and electricity connections to the service provider 2. Assurance for minimum number of diets per day 3. Timely payment to the service providers
5	Project Benefits	<ol style="list-style-type: none"> 1. Improved hospital ambience 2. Minimized safety hazards to hospital staff, patients and their attendants 3. Reduced cross infection and hospital acquired infection 4. Increased Patients and staff satisfaction level 5. Improved quality of hospitality services and reputation of public healthcare facilities 6. Optimization of cost and performance over time 7. Better monitoring, efficient and effective management of ancillary services
6	Operation and Maintenance	<ol style="list-style-type: none"> 1. Provision of facility management services 24x7 as per the Terms of Reference 2. Provide requisite manpower, equipments and materials
7	User Charges Involved	<ol style="list-style-type: none"> 1. Parking fees for visitor vehicles 2. Outpatients canteen service 3. The service provider will be reimbursed at an agreed rate by the Government every month as per the quantity of services provided
8	Inventory Management	<ol style="list-style-type: none"> 1. Procure and manage all consumables and inventory required 2. Maintain optimum inventory and ensure nil stock out

8.2.Risks & Mitigation

The following are the risks involved in the project,

Risks for the Government

1. Service provided by private player may not match the requirements specified by government
2. All the facility management services may not be harmoniously coordinated in case of more than one private player
3. Non utilization of available services in healthcare facility
4. Lack of continuous monitoring and evaluating the services may lead to deterioration of service quality delivered by private player

Risks for the FMS providers

1. Increase in cost due to inflation within the contract period
2. Lack of coordination with other stakeholders (private players) leading to increase in cost
3. Attrition of specially trained employees
4. Lack of support from government side (staff members)

Mitigation Strategies

1. Designing measurable tools to monitor and evaluate performance of private player and delivering it as a part of the RFP process
2. Designing standard protocols for housekeeping and other services considering infection prevention policy and WHO standards and delivering it as a part of the RFP
3. Ensuring that all the bidding parties have adequate experience in handling large hospital systems and have established processes, this has to be built into the RFP document
4. Effective supervision and training in order to have strict adherence to quality standards
5. Reduction of administrative and asset waiting time by better process design and infrastructure deployment
6. Surprise quality checks and penalizing the private companies in case of violation of agreed terms of service

Risk Mitigation Strategies

SI No	Category	Risk	Risk Incurred by	Mitigation Strategy
1.1	Implementation Risk	Delay in project clearance	Partner	<ol style="list-style-type: none"> 1. Government to provide all clearances for initiation of the project within 30 days of selection of partner from competitive bid process 2. The partner has the right to terminate the contract with one week prior notice if the government fails to honor the commitments
1.2		Contractor Default	Government	<ol style="list-style-type: none"> 1. The Tenderer should have completed at least Two similar jobs for any corporate or public hospital with at least 300 beds each costing not less than 50% of annualized estimated value 2. Average annual turnover of the Facility Management Business during the last three years to be at least Rs. 5 Crores (Can be finalized at the proposal stage) 3. Only organizations with prior experience of working in hospitals satisfactorily for at least five years are qualified for bidding 4. Agency should be preferably based in Bangalore / Karnataka or should have substantial presence in Bangalore / Karnataka. 5. Should have License by Labour Commissioner for contracting labour under Contract Labour Act 6. Should preferably have valid ISO 9001:2008 certification as Mechanized housekeeping service minimum three years old 7. It is preferred that the partner/service provider has experience of working in public hospitals. Qualifying marks shall be provided to such bidders for this. 8. Government to retain the earnest money in case the private partner defaults before signing the contract

				<p>9. Partner to commence work within 30 days of issue of letter of acceptance, failing which penalty per day @0.05% of the annualized contract value will be levied upon him.</p> <p>10. The government has the right to terminate the contract with one-month notice if the service provider is not adhering with the Terms of Reference mutually agreed.</p> <p>11. The government shall give two warning notices and provide adequate time for rectification before sending a notice for termination of services. Only the Commissioner Health and Family Welfare/Secretary Health shall give the termination notice.</p> <p>12. The service provider shall not sub-let the premises or service to any other party without the prior permission of the government. The government has the rights to terminate the contract in the event of any such activity with a 15 day notice, and take control of the premises, equipment and accounts during the period and afterwards till the case is resolved</p>
2.1	Operation and Maintenance	Poor quality of services	Government	<p>1. Timely availability of all the men, material and machinery at the hospital shall be the sole responsibility of the contractor and in the event of his/her failure to do so, CMHO reserve the right to get it done by his/her own ways and expenditure incurred shall be deducted from the payments due to the contractor along with penalty as deemed fit by hospital authorities.</p> <p>2. The contractor shall take all necessary steps to ensure that due to ancillary work, official work and beneficiaries are not put to inconvenience during any time and there is no Safety hazard/any other hazard at workplace.</p> <p>3. Monitoring of the levels of quality of the ancillary services shall be done on regular basis by officers of the hospital and in the event of quality of services being found to be</p>

				unacceptable, "Penalty" equivalent to the payment due for 10 days for every day of default shall be imposed. The contractor or his employees will not be allowed to take out any item without the explicit written authority of the officer in charges or authorized representatives of the CMHO.
2.2		Utilities, Access to hospital areas and storage space	Government	The government shall provide the electrical & water supply free of cost, minimum storage space to store materials / equipments and access to all hospital areas.
2.3		Process adequacy and Quality of Service	Government	<ol style="list-style-type: none"> 1. The service provider shall maintain detailed books of records of, <ol style="list-style-type: none"> a. Staff attendance report b. Consumables – in stock, out of stock, consumption pattern – as per the existing government guidelines c. Weight of Bio-Medical waste handed over to disposal agency d. All expenditure involved in the day to day operation of the hospital as per the existing government guidelines 2. The service provider shall adhere to detailed Standard Operating Procedures of the hospital for, <ol style="list-style-type: none"> a. Service delivery b. Emergency and Disaster management c. Bio Medical waste management d. Cleaning and sterilisation e. Any other process deemed necessary by the H&FW department
3.1	Finance Risk	Inflation risk	Partner	<ol style="list-style-type: none"> 1. The government shall revise the reimbursement rate for services every year. 2. The effective increase shall not be higher than 10% of the previous amount
3.2		Change of interest rates/tax rates	Partner	The partner has to bear any changes in interest rates and tax rates by the state/central government

3.3		Exchange rate fluctuation	Partner	The partner has to bear the exchange rate fluctuation during the procurement process
4.1	Legal risk	Changes in Policy	Private	<ol style="list-style-type: none"> 1. The government shall be cognizant of the impact of any policy change that may adversely affect the contract (this is apart from the issues relating to taxes, inflation changes, change of interest rates, exchange rate fluctuation which have been discussed above) 2. The government shall insulate the contract from any such policy changes, or see to that the partners are adequately compensated for losses incurred because of policy change
4.2		Adherence to legal and regulatory compliances	Government	<ol style="list-style-type: none"> 1. The private partner is responsible for adherence legal and regulatory compliances 2. Any loss arising from inadequate compliance to legal and regulatory norms are to be borne by the private partner
		Medico legal risk	Government/Private	<ol style="list-style-type: none"> 1. The medico legal risk is shared between the Government, the service provider on a case to case basis
4.3		Employee legal risk	Private	<ol style="list-style-type: none"> 1. The service provider is absolutely responsible for any legal risk arising out of employee disputes 2. Employees of the service providers cannot claim themselves as employees of the government and are not liable for any facilities and perks provided to government employees

Chapter 9 -Way Ahead

Currently the project plan is to give the facility management services on Management Contract in the proposed two hospital of Bangalore as a pilot project – K.C. General Hospital, Malleshwaram and Jayanagar General Hospital in Bangalore. Once implemented, the success of the project will be measured in terms of the quality of the services in the hospital, patient & staff satisfaction and experience of hospital administration. The model can then be replicated in other district hospitals of Karnataka in the first round thereby improving the quality of services. Upon successful implementation of the project in district hospitals other Taluka Hospitals, Community Health Centres and Primary Health Centres can be considered for.

S. No	Name of the Hospital	District	Current Bed Strength
1	District Hospital Haveri	Haveri	250
2	District Hospital Dharwad	Dharwad	130
3	Chikkabalapur District Hospital	Chikkabalapur	110
4	General District Hospital	Chamarajnaragar	150
5	Ramanagara Hospital	Ramanagara	100
6	Tumkur District Hospital	Tumkur	200
7	General Hospital Kolar	Kolar	353
8	District Hospital Koppal	Koppal	66
9	District Hospital Chitradurga	Chitradurga	450
10	District Hospital Kodagu	Kodagu	400
11	District Hospital Bagalkot	Bagalkot	200
12	District Hospital Yadgir	Yadgir	100
13	District Hospital Udipi	Udipi	194
14	District Hospital Gadag	Gadag	120
15	District Govt Hospital	Gulbarga	450
16	District Hospital Karwar	Karwar	150
17	District Hospital Shimoga	Shimoga	650
18	District Hospital Belgaum	Belgaum	740
19	District Hospital Bijapur	Bijapur	400
20	District Hospital Dharwad	Dharwad	250
21	District Hospital Bidar	Bidar	500
22	District Hospital Hassan	Hassan	
23	District Hospital Mandya	Mandya	550
24	Venlock Hospital Mangalore	Dakshina Kannada	905
25	District Hospital Raichur	Raichur	500
26	Aruluguppe Mallegownda District Hospital	Chikmangalur	400

Chapter 10 - Annexure

ANNEXURE 1: MANPOWER AVAILABLE IN KCGENERAL HOSPITAL, MALLESWARAM AS ON APRIL 2012

S No.	Post	Sanctioned	Working	Vacant
	DOCTORS			
1.	Hospital Superintendent	1	1	0
2.	RMO	1	1	0
3.	OPD Surgeon	1	1	0
4.	Sr. Specialist	36	34	2
5.	DCMO	2	2	0
6.	SMO	3	3	0
7.	Biochemist	1	1	0
8.	AAO	1	1	0
9.	Nursing Superintendent Gr-I	1	1	0
10.	ANM Principal	1	1	0
11.	Nursing Superintendent Gr-II	1	1	0
12.	ANM Nursing II	2	1	1
13.	Sr. Staff Nurse	11	6	5
14.	Staff Nurse	85	85	0
15.	Other Gr-C	90	71	15
16.	Gr-D	131	90	2
17.	Security	-	28	-
18.	Non clinical	-	39	-
19.	Others	-	14	-

Source: Hospital Authority

ANNEXURE 2: LIST OF EQUIPMENT AVAILABLE IN KC GENERAL HOSPITAL MALLESWARAM

Imaging Equipment

S No.	Name of Equipment	Available
1	500 M.A. X-ray machine*	0
2	300 M.A. X-ray machine	2
3	20 M.A. X-ray machine	1
4	20 M.A X-ray machine	1
5	C arm with accessories	2
6	ECG Machine	4
7	Ultra Sonogram (Obs & Gyne. department should be having a separate ultra-sound machine of its own)	2
8	Foetal monitor	1

Major OT Equipment

S. No.	Name of Equipment	Available
1	Anesthesia work station	1
2	Anesthesia machine	5
3	OT table electrical	5
4	OT ceiling light	4
5	Multipara monitor	5
6	Surgical diathermy	4
7	ENT operating microscope	2
8	Ventilator	1
9	Laparoscopic full set	1
10	Orthopedic attachment	1

11	A.C (split)	8
12	Centralized gas pipe line	4 OT

Eye OT & OPD Equipment

S. No.	Name of Equipment	Available
1	OT table hydraulic	2
2	Operating microscope	2
3	Slit lamp	2
4	Ophthalmoscope	1
5	Keratometer	2
6	A-scan	1
7	A.C (split)	1
8	Centralised gas pipe line	6 outlet

IPP OT Equipment

S. No.	Name of Equipment	Available
1	OT table hydraulic	2
2	Anesthesia machine	1
3	Laparoscopic full set	1
4	A.C (split)	1

CSSD Equipment

S. No.	Name of Equipment	Available
1	Horizontal autoclave 18 KW	1
2	Horizontal autoclave 9 KW	2
3	Vertical autoclave	3

NICU Equipment

S. No.	Name of Equipment	Available
1	Bubble c-pap machine	2
2	Radiant warmer	14
3	Phototherapy	6
4	Multiparamonitor	6
5	Pulse oxymeter	6
6	Syringe pump	6
7	Oxygen concentrator	2
8	ABG machine	1
9	Centralized gas pipe line	16outlet
10	Diesel generator 15 KVA	1
11	A.C (split)	5

ICU Equipment

S. No.	Name of Equipment	Available
1	Ventilator	4
2	Multiparamonitor	6
3	Pulse oxymeter	6
4	Syringe pump	6
5	x-ray machine (portable)	1
6	Defibrillator	1
7	ECG machine	1
8	A.C. (split)	8

Dialysis Equipment

S. No.	Name of Equipment	Available
1	Dialysis machine	11
2	R.O Plant 1000LPH	1
3	A.C. (split)	6

4	Centralized gas pipe line	12 outlet
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Laboratory Equipment

S. No.	Name of Equipment	Available
1.	Auto analyzer	1
2.	Semi auto analyser	1
3.	Cell counter machine	1
4.	Electrolyte analyser	1
5.	Incubator	2
6.	Hot air oven	2
7.	Binocular microscope	2
8.	Centrifuge	3
9.	A.C (split)	1

Physiotherapy equipment

S. No.	Name of Equipment	Available
1	Lumbar traction + table	2
2	I.F.T	2
3	Muscular stimulator	2
4	Quarterceps exerciser	1
5	Ultra sound	1
6	SWD	2
7	TENS	1

Blood Bank Equipment

S. No.	Name of Equipment	Available
1	Blood storage refrigerator	3
2	Blood bag sealer	2
3	Blood collection monitor	2
4	Elisa reader with washer	1
5	Centrifuge	2

6	Colorimeter	1
7	Refrigerator	3
8	A.C. (split)	4

Dental Equipment

S. No.	Name of Equipment	Available
1	Dental chair	2
2	Dental x-ray	1
3	Scalar	1

Laundry Equipment

S. No.	Name of Equipment	Available
1	Washing machine (electrical)	2
2	Hydro extractor (electrical)	2
3	Drier (electrical)	2

General Equipments

S. No.	Name of Equipment	Available
1	Liquid Oxygen Plant	1
2	Medical gas manifold room (compressor, vaccum pump)	1
3	Diesel generator 50 KVA	1
4	Diesel generator 62.5 KVA	1
5	Diesel generator 15 KVA	1
6	Mortuary cabinets	2
7	Solar water heater	4000LPD
8	Solar home light	125
9	Xerox machine-Off	1



10	Duplicator – Off	1
11	Computer system – Off	6
12	CCTV system	8 points
13	EPBAX (intercom)	61 points

Source: Hospital Authority

**ANNEXURE 3: CURRENT FACILITY MANAGEMENT DATA OF KC GENERAL HOSPITAL
MALLESWARAM**

Dietary - Manpower cost				
Type of manpower	Available Number	Work Experience (years)	Monthly wages per month / manpower (in Rs.)	Per annum manpower cost in Rs. (2011-12 FY)
			(inclusive of 25% HRA - House rent allowance, 300 CCA- Compository Allowance as per 6th pay)	
Head Cook	1	30Yrs	28000	336000
Cleaners	1	20 Yrs	20000	240000
Group D	3	25 Yrs	20000	240000
Total	5		68000	816000

Dietary - Cost of consumables			
Cost Head	Quantity consumed	Per month expenses in Rs.	Per annum expenses in Rs. (2011-12 FY)
Vegetables		37932	455184
Pulses	Toor Dal 484Kgs	34843	418116
Cereals	Rice 2350 Kgs	91533	1098396
Spices	Sambar Powder 48 Kgs	12000	144000
Salt	96 Kgs	960	11520
Tamrind	96 Kgs	8256	99072
Oil	96 Kgs	11520	138240
Sugar	542 Kgs	17344	208128
Coffee powder	114 Kgs	37620	451440
Milk	1830 ltrs	43920	527040
Gas Cylinders	33 Cylinders	13860	166320
Others; Eggs	12500	36875	442500
Sweet Breads	1095 Kgs	46984	563808
Total		393647	4723764

Dietary - Cost of equipments / utensils			
Cost Head	Quantity	Gross expense at the time of installation in Rs.	Per annum expenses in Rs. (2011-12 FY)
Freeze	1		
Trolley	1		
Utensil to cook (steam)	4		
Idli equipment	1		
Grinder	1		
Total		5 lakh	10000

Laundry - Manpower cost				
Type of manpower	Available Number	Work Experience (years)	Monthly wages per month / manpower (in Rs.)	Per annum manpower cost in Rs. (2011-12 FY)
Laundry Operator	3	25 Yrs	20000	720000
Total				720000

Laundry - Cost of consumables			
Cost Head	Quantity consumed	Per month expenses in Rs.	Per annum expenses in Rs. (2011-12 FY)
Detergent	60 Kgs		
Robin Blue	10 Ltrs		
Soap Powder/Bleaching Powder	50 Kgs		
Soap Solution	50 Ltrs		
Total			4 lakh

Laundry - Cost of equipments / maintenance			
Cost Head	Quantity	Cost incurred at the time of installation	Per annum expenses in Rs. (2011-12 FY)
Washing Machine - RHW 100 & 30	1		
Hydro Extractor RTD 30 Kg	2		
Tumbler Dryer RTD 25 Kg	2		
Total		1412685	

Housekeeping - Manpower cost					
Type of manpower	Available Number	Work Experience (years)	Monthly wages per month / manpower (in Rs.)	Monthly wages per annum / manpower in Rs. (2011-12 FY)	Outsourced agency cost
Outsourced along with security services,					
Manpower available	58				
Total Cost					2,71,065

Housekeeping - Cost of consumables			
Cost Head	Quantity consumed	Per month expenses in Rs.	Per annum expenses in Rs. (2011-12 FY)
Phenyl	40 liter/day	5400	64800
Bleaching Powder	10kg/day	13200	158400
Soap Oil	10 liter/day	12600	151200
Acid	100/month	3500	42000
Other		13500	162000
Total		48200	578400

Housekeeping - Cost of equipments / maintenance			
Cost Head	Quantity /per year	Per month expenses in Rs.	Per annum expenses in Rs. (2011-12 FY)
Bathroom Brush	500		34000
Wiper	500		85000
Bucket	200		29000
Mugs	200		3200
Black Covers	4000 Kg		68000
Gloves	100		5500
Total			224700



ANNEXURE 4: SURVEY DETAILS OF KC GENERAL HOSPITAL MALLESWARAM

SI No	Descriptions	Remarks						
Basic Information								
1	Name of the Client	KC General Hospital - Malleshwaram						
2	Address of the Clinet with Ph Nos	080-23350239						
3	Contact Person Name (with Designation)	NA						
4	No of Employees	381 (group A to D)						
5	No of Beds in the Hospital	479						
Current Information								
		HK Services	Allied Services	Pest Control	Garden ing	Plumbi ng	Electrical Mntnce	Security Services
1	Current Service Provider	Local	Local	Local	Local	Local	Local	Local
2	No of Buildings	3 (G+2)	-	-	-	-	-	-
3	Manpower Details (shift wise)	39	14	NA	6	8	10	28
4	Consumable & Chemicals by Service Provider or Not	No	NA	Yes	Yes	NA	NA	NA
5	Cleaning Machinerics by Service Provider or Not	No	NA	Yes	Yes	NA	NA	NA
Survey Details								
1	Mention - 6 days working / 7 days working	7 days a week						
2	No of Shifts in Operation in a day (pls mention timings)	general shift (9am - 6pm)						
3	Total Area in sq ft	600000 sq ft						
4	No of Floors	G+2 floors						
5	Type of Floor /s	Mosaic Tiles						
6	No of Rest Rooms (G+L)	12+12						
7	External Road Area in sq ft	300000 sq ft						
8	Garden Area Area in sq ft	100000 sq ft						
Other Details								
	Descriptions	Remarks						
1	Operation Theatre	Couldn't get inside						
2	Electromechanical (Gensets)	Yes						
3	Parking	Yes, currently managed by local vendor						
4	Laundry	Yes managed by group D staff						
5	Collection of Biomedical Waste	Within Hospital is done by the staff and collection from the point of segregation to dumping is outsourced						

Area Distribution	
Total Area - Hospital (Sq. Ft)	650000
Total Area - Roads (Sq .Ft)	300000
Total Area - Garden (Sq .Ft)	100000
	1050000

List of proposed deployment of Housekeeping Equipments			
S.No	Equipments	UoM	Quantity
1	Walk behind Scrubber Drier	Nos	5
2	Single Disc Scrubber	Nos	2
3	Wet n Dry Vacuum Cleaner	Nos	8
4	High Pressure Jet Machine	Nos	3
5	Telescopic Pole (Cob web)	Nos	5
6	Double Bucket Trolley	Nos	15
7	Signage boards	Nos	20
8	Glass Cleaning Kit	Nos	2
9	Mechanical Sweeper	Nos	4
10	Gardening Tools	Nos	2
Total			66

List of Chemicals and Consumables to be used for Housekeeping services			
S. No.	Particulars	S. No.	Particulars
1	Dettol - Disinfectant	19	Eze mop 75 cms - refill
2	Taski R1	20	Gala mop
3	Taski R2	21	Gala mop refill
4	Taski R3	22	Hand Gloves Rubber
5	Taski R5	23	Road Brush
6	Taski R6	24	WC Brush
7	Urinal Cubes	25	Soft Brooms
8	Napthalene balls	26	Hard Brooms
9	Air Freshner Cake	27	Dust pan with counter brush
10	Toilet Cleaning acid	28	Spray gun
11	Checked cloth	29	Scotch Brite big
12	Glass Cleaning cloth	30	Nylon Scrubber
13	Mop Cloth	31	Plastic Bucket (20 lit)
14	Yellow soft Cloth	32	Plastic Mug (1 lit)
15	Rubber Wiper	33	Measuring Jar
16	Eze mop 50 cms	34	Cob Web Stick
17	Eze mop 50 cms - refill	35	Face Mask
18	Eze mop 75 cms	36	Goggle

ANNEXURE 5: FMS AGENCIES OPERATING OUT OF BANGALORE

Sr. No.	Company Name	Brief about company	Address & contact number	Source/Website Hyperlink
1	Omega Healthcare	<p>Healthcare Business Outsourcing Services Omega Healthcare is one the premier offshore providers of medical coding, billing, accounts receivable management, claims processing, and healthcare revenue management. Omega Healthcare is dedicated to providing the following services to our clients:</p> <ol style="list-style-type: none"> 1. Medical Coding – Professional and Facility 2. Data Entry into Software and Practice Management Systems – Charges, Coding, Demographics and Cash/Payment Posting 3. Accounts Receivable Management - Analysis and Collections (Physician and Hospital Claims). <p>Omega Healthcare has extensive experience in providing services in a variety of hospital-based and office-based physician specialties. We also have experience in providing services to A/R Management companies and their hospital clients for their credit balance account, regular accounts receivable and facility coding needs. Our delivery organization is driven by quality and Six Sigma methodologies, which ensure improved processes and client satisfaction.</p>	<p>India Bangalore Office Address::Omega Healthcare Management Services Pvt Ltd.,33, NAL Wind Tunnel Road Bangalore - 560017 Phone: +91 80 4155 7333</p>	<p>http://www.omegahms.com/centers.html</p>
2	Manipal Service Corp Facility Management Pvt	<p>Manipal Service corp. Facility Management Pvt. Ltd. or MSFM in short, is among the market leaders in the field of Facility Management Service in India. MSFM offers</p>	<p>Golden Enclave,' Tower B-1, 3rd Floor Old Airport Road Bangalore – 560017.</p>	<p>http://www.msfindia.com/about-us.html</p>



	Ltd.	total solution under one roof. We are an integrated Facility Management Service provider equipped with state-of-the-art technology, skilled and trained manpower, core team of managers with multifunctional expertise and dynamic leadership. At present, we are servicing an area of about 12 million square feet across South India. MSFM is one of the very few companies present in the field of Healthcare Facility Management. Apart from Healthcare, MSFM manages facilities in other sectors such as Hospitality, Academia, IT/ITES, Manufacturing and Services. We also cater to Corporate offices, Project sites, Households and Government units on a One-Time or regular basis, as required.	Tel: +91 80 4115 2703 / 04. Fax: +91 80 4161 2693. Email: msfmc corp@msfmin dia.com Contact Person-Lt Col Laxmi Narayan	
3	Absotherm Facility Management Pvt Ltd.	Absotherm Services commences operations in 1995. Since then it has successfully catered to the technology intensive market. Offering a combined mix of expertise and innovation in Facility Management and Turnkey Engineering Projects, we have constantly delivered our best services. A passion to lead and a commitment towards delivering within time frames has always kept us ahead of competition. In an environment where optimism dwells, we foresee every challenge as an opportunity to prove our mettle, the results of which are evident on the satisfactory faces of our several reputed customers. The company started with two persons on board, blossomed into an empire in the span of 16 years with 6000+ employees on board today. An ISO 9001 certified company, we are a member of IFMA group and understand the requirement of our clients with 100% statutory compliance and in house team of experts to cater to	No. 41, "Genesis Hoouse", 10th Main,XI Sector, Jeevan Bheema Nagar, Hal 3rd stage,Bangalore- 560075. Tel: 080-41450222; Fax: 080-41450259 This has presence in other parts of India including Bangalore.	http://www.absotherm.com/knowus.html



		the vast requirement of our prestigious customers.		
4	ACME Groups	<p>Acme is a property & Facilities Management Company, a leading Service provider of Integrated Property & Facility management services with proven expertise. Acme provides clients with a wide range of services including management, planning, scheduling, executing and quality assurance of the facility management. To meet the ever-changing maintenance and facility needs, Acme facility management solutions based on time and cost optimization without compromising quality. We cater to the Software, Telecom, Finance, Healthcare, Government, Energy sector, Manufacturing sector etc. Acme has a unique delivery model, an organization structure that practices customer satisfaction at every level and commitment to quality that delivers compelling business value. Our Motto is Outmost customer satisfaction through Comprehensive facility management services at a single contact point "A". The Delivery Model, a powerful management structure, proven track record with different industries, customer-focused project management based on highest quality processing, differentiates business at Acme. We work hard to ensure that the services are not only the best available in terms of performance and quality, but also cost effective in the competitive market.</p>	<p>#2578, 17th Main, 2nd Cross, HAL 2nd Stage, Indiranagar, Bangalore - 560 038. Tel No: 91-80-4115 0741/742/743 & 91-80-2526 9955 Fax: 91-80-2591 6035 Mobile : 98455 68427 / 98455 69295</p>	<p>http://www.acme-groups.com/</p>
5	BVG India	<p>BVG India Limited is a flagship company of the Bharat Vikas Group. It was established in 1997 by Mr. H R Gaikwad & Mr. Umesh Mane. It is solely with their perseverance & sincerity towards work that BVG has</p>	<p>BVG House, # 47,1st & 2nd Floor, Millers Tank Bund Road,Vasanth Nagar,Bangalore-</p>	<p>http://www.bvgindia.com/</p>



	<p>flourished from an 8 odd member cleaning crew to a humongous establishment in Facility Management. Taking inspiration from Swami Vivekananda, BVG started its operations in 1997 to cater the cleaning service requirements of a local industrial establishment. Since then, with commitment to quality work, BVG has grown in leaps and bounds. Today known to be amongst the best Facility Management brands, having over 25,000 employees, BVG family is spread over 70 locations all over India. With a strong, dedicated team of thorough professionals, BVG provides varied services & solutions like Mechanized Housekeeping, Landscaping & Gardening, Logistic & Transportation, Civil & Electrical etc. to its 300 customers in Government sector like Parliament House, Prime Minister House & office as well as Private sectors like Tata Motors Ltd., Bajaj, Mahindra, Accenture, ITC, ONGC etc. Providing employment to people from rural regions through its various projects & work has always been the underlying principle of BVG. Thus with creating an equal opportunity for the rural areas BVG has also been contributing to their overall development. Today, BVG is the undisputed leader in Facility Management sector and it is because of its attitude of accepting challenges & successfully delivering the results. For example: Mud Removal Case, Fiat Plant Shifting & Electrical Distribution Projects. Also, by the virtue of its size of operations, manpower and self made success, BVG has attained number one position in the country.</p>	<p>560052Tel - +91 80 41417900/41417901Telefa x - +91 80 4121 6486</p>	
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ANNEXURE 6: SCOPE OF LAUNDRY SERVICES ASSUMED FOR THE COST ESTIMATION

Laundry operations:

- Manning and operation of washer, extractor, dryer, iron and other laundry equipments
- The service provider shall procure the chemicals/detergents, store and will use the same in the laundry as per the requirements. The raw material procured shall be billed as per actual to Jayanagar General Hospital Malleshwaram.
- Disinfecting the linen as per the hygiene standards mentioned in the cleaning protocols
- Washing, cleaning and drying of linen as per the defined protocols
- Disinfecting, washing, cleaning and drying of highly infected linen as per the special instructions
- Ironing & folding of all the linen at proper temperatures and as per the defined protocols
- Using the chemicals - disinfectants, surfactants, washing detergents, bleaching agents etc. in proper quantities and of proper grade as defined in cleaning protocols
- Segregation of torn & unserviceable linen and maintaining record duly verified by Jayanagar General Hospital representative
- Sending torn OT linen and hospital clothing for mending by the employed tailors of Jayanagar General Hospital with instruction of hospital authority

Linen Management Services:

- Aggregating and carrying soiled patient linen to the laundry
- Providing the wards, and various OTs with cleaned patient linen
- Storing and shifting of cleaned linen to clean linen storage area and to various areas of hospital

Requirements for Jayanagar General Hospital:

- Jayanagar General Hospital has the requirement to launder the hospital linen, which comprises of big/small linen items both white & colored, blankets, curtains/Uniform etc.
- The laundry is to be operated on all days in one shift. The linen shall be ready for delivery within 24 hours of receipt
- The staff would be required to collect soiled linen form various wards, ICUs, OTs and other designated areas in the hospital
- They would also be required to segregate soiled linen; wash them, iron the linen and send them to respective areas
- Laundry staff is required to maintain a proper log of all the linen, incoming and outgoing, and are required to generate a fortnightly/monthly report (as per Jayanagar General Hospital policy)
- Service provider shall do the procurement management of raw material and consumables. The service provider shall procure raw materials (ingredients, transport, and store) and consumables, ensure its quality, manage inventory. All procurement by service provider shall be done on behalf of Jayanagar General Hospital and it will be billed to Jayanagar General Hospital for payment

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- The inventory of raw materials shall be checked periodically for consumption pattern
 - The quality of raw material and consumables shall be as specified by Jayanagar General Hospital and hospital officials may randomly check the material /stores for the purpose
 - The service provider shall make his own arrangements for making available the required manpower for carrying out all the activities connected with running of the laundry and room service department to deliver laundry
 - The service provider shall comply with all operational rules and regulations, including security rules framed by the hospital and made applicable to the whole or part of the premises, wherein the service provider or his employees happen to be operating /working
 - The service provider shall make SOP and operational plan for smooth and efficient running of services in consultation with Jayanagar General Hospital and best standard industry practices, WHO norms and infection prevention norms

Commitments by Jayanagar General Hospital:

- Place and accommodation for the laundry will be provided by the Jayanagar General Hospital to the service provider for a specified period of contract
- Electricity and water supply will be provided by the Jayanagar General Hospital for operations of various machines for Laundry, general lighting & ventilation in the premises. The private service provider will however use these judiciously and will ensure that there is no wastage.
- Jayanagar General Hospital will provide available machines and equipments, any additional equipment/ machines other than those available shall be provided by the vendor. K.C General Hospital authorities will provide administrative support during this period. After expiry of warranty period / AMC of equipments, preventive in-house maintenance will be the responsibility of the vendor.

..... End of report.....