

PROJECT REPORT

THE CHARITABLE HOSPITAL
IN THE STATE OF BIHAR
VILLAGE ARURI
BLOCK- PAKRI BARAWAN
NAWADA DISTRICT.

PREPARED BY:
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DSRV & Co LLP
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Gurgaon

EXECUTIVE SUMMARY

Healthcare is the introductory need of every citizen. Hospitals, conventions, nursing homes, and medical camps form the platform for this healthcare delivery with the help of croakers, nursers, and other medical staff. In India population is growing rapidly, but unfortunately, hospitals are few. As per WHO, India needs 80,000 further hospitals to meet the demands of such a growing population by keeping in mind all these factors.

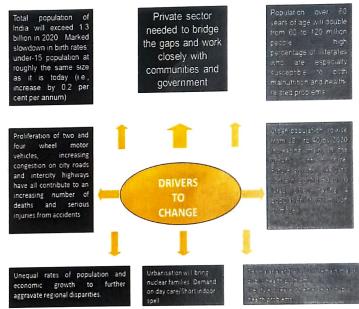
The health care sector is also expanding rapidly in India, and starting a health care or hospital business is helpful for the country's citizens and growing business.

To start a health care center or hospital isn't an easy task as it need exploration, knowledge gathering of both the hospital and healthcare sector, and then you prepare a business plan. A business plan helps in fundraising or understanding the fiscal statements for the current business.

The Indian government accounts for less than a third of healthcare expenditure, among the lowest in the world. Due to low public expenditure and the non-discretionary nature of healthcare delivery services, private sector accounts for about 70 per cent of total healthcare spends in India. The ratio of beds to individuals in India is thus still a meagre 9 per 10,000.

The hospitals sector is highly capitalintensive due to the high per bed costs. Hospitals mainly incur capital expenditure on land and equipment. The cost per bed in a secondary and tertiary hospital is Rs 2-4 million and Rs 6-8 million (excluding land costs), respectively. Hospitals are also highly labor-intensive. Skilled manpower

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includes doctors, nurses and para-medical staff comprising lab-technicians, radiographers and therapists. While India has a large medical workforce with almost 757,380 doctors and over 1.1 million nurses and midwives, the countries has just 6.5 physicians per 10,000 (as against a global median of 16).

The private sector in India comprises not-for-profit and voluntary organizations, providers with a commercial motive including corporate houses and trusts, standalone specialist services, diagnostic laboratories and pharmacies.

The Indian Clinical talent is well experienced, innovative and is well recognized globally. India is gaining importance as a destination for medically motivated travel from developing nations. The states have also looked at the prospects of international patients coming to India and have come forward with certain policies to handhold this part of business.

Therefore, the opportunity is to bridge the gap for shortage of beds, but the factors like regional variation in Bed – population ratios, pattern of migration of patients towards select few cities and town ships and overall infrastructure and environment of the city/geography become the determinants for addition of beds and investments for setting up a new facility.

Emerging and Evolving trends in healthcare

The healthcare sector in India is poised for sustained growth over the next 20 years. The Indian healthcare sector is on a high-growth trajectory path, being pushed by domestic growth, public awareness and growing world interest in India's delivery capabilities. The total industry size is expected to touch USD280 billion by 2020. This is now being further boosted by "Ayushman Bharat", world's largest National Healthcare Program. The National Health Protection Scheme is targeted at 100 million poor and vulnerable families. As part of this "Ayushman Bharat" program, the government will also launch 150,000 health and wellness centers, besides setting up new hospitals and upgrading the old ones. This will also see an increased number of Private hospitals being built and upgraded to cater to this demand. The numbers are huge.

Corporate Hospital chains have been immensely successful in the last 15 years in providing high-quality healthcare services to an educated and affluent urban population as well as the rising aspirations of semi urban and rural population. Though revenue is a key goal for these hospitals, emulating Western standards and ensuring the best outcomes for patients is very important in order for them to attract and retain customers. To remain competitive in the market, hospitals are opting for external accreditation through international organizations such as JCl or India's NABH. Accreditation is also seen as an important process for improving patient safety and quality of care provided to patients. With medical tourism being an important driver, many private hospitals aspire to provide high-quality built environments similar to those found in U.S. and European hospitals.

The push now is going to be in Tier 2 and Tier 3 towns where these facilities have been broadly missing. Many Corporate hospital chains are moving into these smaller towns either by constructing new hospitals on their own but mostly by taking over existing hospitals adopting a Hub and Spoke model to expand their presence.

Various organizations are coming together for improvements in health care and technology plays a crucial role to facilitate this. Information and communications Technology provides hosts of solutions for successful implementation of these changes.

Poor people in urban and rural areas face a huge burden of ill health: almost 10% of them have had atleast one illness in the past two weeks. Despite high burden of illness, many—as many as one in five—do not seek any healthcare. When they seek care, they often do so from informal private providers, because of ease of reaching them, flexible payment options, and extended hours of service.

Healthcare Design

The art and science of designing a hospital is a very complex affair. Beyond complex technical requirements that modern medicine demands and rigid functional relationships between different medical departments, the designer has to cope with a host of more subjective issues like the anxiety of the patient, the stressful work environment of the staff and the need to build a sustainable and healing building.

TRENDS

Bed Mix: The Bed type mix in Private vs Government Hospitals is on two ends. In Govt. hospitals the emphasis has been to provide basic facilities to the poorer sections of society and has primarily focused on large multibed wards (90% of total bed count). On the Other hand, private hospitals provide a combination of multi-bed wards (15-20% total bed count), single occupancy rooms (around 75%), and luxury single rooms for high-paying customers (around 5%)

New Technology: While there is a growing focus on patient centric care, many new private hospitals are investing heavily in new technology and equipment. Today Hospitals are being planned with Hybrid OT and Brain Suites — a combination of the Imaging modalities being brought right inside the Operation Theaters. Hospitals are turning into Smart Hospitals with e-connectivity built into almost all medical equipment to patient rooms to Electronic Medical records etc. All building services are connected via Intelligent Building Management systems to bring in optimum utilization and efficiency. Use of Tele-medicine is also on the rise.

Green and Sustainable: There is a strong push toward sustainability in all public projects in India, including healthcare projects. The GRIHA assessment is mandatory for public healthcare projects, and they are being designed with the goal of obtaining a minimum of a three-star rating. Some of the design features being considered for these projects include rain water harvesting, use of high-efficiency light sources, utilization of natural light, use of low VOC materials, Waste water recycling, energy recycling and use of renewable sources of energy. Though not mandated but the Private Hospitals also see the long-term advantage of going Green and Sustainable.

Design for flexibility and expandability: Due to the complex nature of hospital organization and diverse factors such as operations and functions, alterations and expansion of buildings are varied and frequent. Buildings should be adaptable to the changing requirements. None of the varied elements are static for as technology develops, medical understanding progresses so do social demand and expectations. Therefore, it becomes imperative that our structural grid is so selected that it can be put to various uses.

Emphasis on Patient focused hospitals: Patients till the recent past had become more of an object on the scene than the focus of design. In a major shift, sensitivity to people's feelings and their need for sensory input have entered the vocabulary of facility planning and design. Design of healthcare setting should:

- · Value human beings over technology
- · Enable patients to fully participate as partners in their care.
- Provide flexibility to personalize the care of each patient.
- · Encourage care givers to be responsive to patients.
- · Foster a connection to nature and beauty.

The objective is to create a patient focused, patient centered architecture by offering an atmosphere of safety, security, cleanliness and physical comfort.

Create a Healing Architecture: A hospital needs to be the most wonderful place in the world. It needs to heal. The hospital must have an architectural environment that can positively contribute to the healing process.

Evidence Based Design or EBD is learning from past experiences and using that knowledge to improve future projects. Healthcare Architects must see EBD as a way of understanding how design impacted performance and outcomes. What is important here is to use EBD data that is local and not from other parts of the world.

Hospital of the Future:

Redefined care delivery. Emerging features including centralized digital centers to enable decision- making, continuous clinical maritoring 3-D printing for surgeries, and the use of smaller, portable devices will help characterize acute pare hospitals.

- Digital patient experience: Digital and artificial intelligence technologies can help enable on-demand interaction and seamless processes through a choice of devices to improve patient experience.
- · Operational efficiencies through technology: Digital supply chains, automation and robotics, can drive operations management and back-office efficiencies.
- Healing and well-being designs: The well-being of patients and staff members—with an emphasis on the importance of environment and experience in healing—will likely be important in future hospital designs.

Technology will likely underline most aspects of future hospital care, but care delivery especially for complex patients and procedures may still require hands-on human expertise. Many future technologies can supplement and extend human interaction.

Healthcare architects and planners have an opportunity to bring together architecture and technology by creating dynamic and engaging settings that cater to the individual needs of patients and identifying opportunities for staff and administrators that broaden treatment options as well as where that treatment is provided.

About The Promoter

Shanti Sajal Research & Charitable Trust (SSR&CT) was incorporated as a Trust on 05/07/2021 bearing registration No. CSR00016068 to undertake PAN India CSR activities having a registered office at J-1/24 F/F Khirki Extn., New Delhi – 110017.

The Trust is registered under **12AA** of The Income Tax Act with effect from 23-9-2021 having a unique registration number **ABCTS0087QF2021401** and the persons donating are eligible for the donation under **Section-80G** of The Income Tax Act.

Niti Aayog Unique Identification Number: DL/2021/0299957

The Board of Trustees led by Mr. Bharat Kumar Bhramar (Founder-Managing Trustee)

The Board of Doctors Includes:

DR. SUDHARANI PURU NAIK

Medical Registration for practice:

Registered medical practitioner registered with Karnataka Medical Council since 06/04/2013.

Qualifications:

- 1. Bachelor of medicine and bachelor of surgery (MBBS) including rotatory internship, Bangalore medical college and research institute, Bangalore, Karnataka, India. Rajiv Gandhi University of health sciences, RGUHS, Bangalore. Duration: 07/2006 to 03/2013.
- 2. MD Psychiatry JSS medical college and hospital, Mysore, Karnataka, India JSS University of higher education and research, Mysore, Karnataka, India JSS University of higher education and research, Mysore, Karnataka, India JSS University of higher education and research, Mysore, Karnataka, India JSS University of higher education and research, Mysore, Karnataka, India JSS University of higher education and research, Mysore, Karnataka, India JSS University of higher education and research, Mysore, Karnataka, India JSS University of higher education and research, Mysore, Karnataka, India JSS University of higher education and research, Mysore, Karnataka, India JSS University of higher education and research, Mysore, M

Work experience:

- 1. Chief Psychiatrist (under District Mental health Program-Government of Karnataka, India) Period of work: 18/05/2020 till date Duties: I am currently working as a Chief Psychiatrist under the prestigious District mental health Program-Government of Karnataka, which is a subsidiary program under the National health Mission, Government of India. I am currently deputed in Chittapur, Kalaburagi district, Karnataka state, India. My role as a psychiatrist in this place caters to all types of mental health needs of the population around this place. This place has population of around 4.5 lakh people. We work as a team which includes Psychologist, Psychiatry social care workers, Psychiatry trained nursing staff.
- 2. Assistant professor, Department of psychiatry, kanachur institute of medical sciences, Mangalore, Karnataka, India. Period of work: 02/11/2018 12/05/2020 DUTIES: Hospital name: Kanachur hospital and research center, Mangalore. it is primarily a tertiary care multi-specialty hospital located in coastal city of south India catering to the health needs of local patients and patients from neighboring states. It's a 1000 bedded hospital with 15 beds primarily under Department of Psychiatry and has a dedicated outpatient psychiatry department. Main duties include day to day care of outpatients and inpatients rounds in psychiatry wards.

DR. TANIA MAHAL

Dr. Tania Mahal is a Senior Consultant, Department of Pediatrics & Neonatology, with work experience of 14 years. Working in a tertiary care corporate Hospital, SPS Hospital Ludhiana as Head & Senior Consultant Neonatology.

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DR. RUPALI SATIJA

Qualifications & Experience:

- 1. DNB Family Medicine, MBBS
- 2. Family Physician
- 3. 4 Years' Experience Overall (3 years as specialist).
- 4. Medical Registration Verified
- Dr. Rupali Satija is a Family Physician in Malad West, Mumbai and has an experience of 4 years in this field.
- Dr. Rupali Satija practices at Cloud nine Hospital in Malad West, Mumbai. She completed DNB Family Medicine from Jehangir Hospital, Pune in 2019 and MBBS from LSMU in 2016.

Shanti Sajal Research & Charitable Trust: (SSR&CT) has been serving Bihar since 2021 and are committed to treating all patients in need. We aim to construct, manage, and maintain a 50-bedded FREE Hospital in the District of Nawada in Bihar. Our highly skilled medical professionals take great pride in providing our

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community with quality care that's patient-centered. Learn more about what makes us unique by getting in touch with a member of our medical staff.

SSR & CT is the proposed charitable hospital to come up in a huge parcel of land owned by the Board members of the Trust will have three wings – one catering to the general medicine, the second one to women and child care and third for cancer care treatment for all ages.

SSR & CT the Bihar hospital project is a prestigious initiative of the Trust to provide comprehensive health care to the poor and needy population surrounding the District of Nawada.

SSR & CT highest values are dedication, education, empowerment, service, and growth. We are committed to a patient experience that is fueled by integrity and respect. We work hard to ensure that all of our patients are comfortable, and that all of their questions and concerns are addressed. Shanti Sajal Research & Charitable Trust (SSR&CT) will show you how a hospital should be.

Hospitals are largely based in urban areas. Initially, new hospitals derive patients from areas in the immediate vicinity. However, once the hospital develops its brand in the market, it then looks at demand from neighboring areas and towns. Hospitals specializing in complex ailments like oncology, cardiology etc. may see patient inflows from the entire country, in case of day care and OPD centers local vicinity plays a very important role.

SSR & CT will provide open learning centers, school scholarships, and extend support to attend formal and non-formal schools; to provide free education to the needy children and mainstreaming the dropout children by providing free meals, clothes and medical treatment; to establish, maintain and maintaining educational, vocational and technical institutions anywhere in India concentrating in rural and backward areas and provide financial assistance to such institutions; to tackle problems of malnutrition as part of our integrated approach to fight eradication of hunger; to establish and maintain educational institutions, social service and computer training centers, besides organize medical camps and health care programs to the under-privileged section of the society.

पकरीबरावां के एकरी में रखी गई शांति सजल चैरिटेबल हॉस्पिटल की नींव

नविबहार दूत संवाददाता प्रकरीबरावां। एरुरी ग्राम सहित प्रे नवादा वासियों को जल्द ही स्वास्थ्य संबंधित सभी आधुनिक सुविवाएँ मिलने जा रही हैं। शांति सजल दिसर्व एंड चैरिटेबल ट्रस्ट जल्द ही एरुरी ग्रामवासियों को शांति सजल चैरिटेबल हॉस्पटल के रूप में तीहफा देने जा रहा है। शुक्रवार को इसकी नींव एरुरी में रखी गई। मारत भ्रमर (संस्थापक ट्रस्ट), डॉ. सिल्वी रोजर्स सेरिटेबल ट्रस्ट), डॉ. सिल्वी रोजर्स सेरिटेबल ट्रस्ट), डॉ. सिल्वी रोजर्स सेरिटेबल ट्रस्ट), इं. सिल्वी रोजर्स सेरिटेबल ट्रस्ट) एवं अमीषा सेटी (हीट मोंडे मिसेज वं इंडया वर्ल्डवाइड 2021) ने संग्रुक रूप से इसकी नींव रखी।

नाथ रखन क पश्चात शांति सजल रिसर्च एंड चैरिटेबल ट्रस्ट के संस्थापक ट्रस्टी भारत भ्रमर ने कहा कि इस हॉस्पिटल के खुलने से नवादा जिले के लोगों को स्वास्थ्य क्षेत्र की पुविधाएं और भी सुचारू कर से मिल सकेगी। लोगों को अब इलाज कराने के लिए इधर - उधर भटकने की जरूरत नहीं होगी। हमारा उद्देश्य असहाय तथा लाचारों को सुगमता से आधुनिक स्वास्थ्य सेवाएं प्रदान करता है। उन्होंने इस हॉस्पिटल कि जह है।

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बताया कि इस डॉस्पिटल का निर्माण आदर्श इंटर विद्यालय बिहारशरीफ के पूर्व प्राचार्य स्वर्गीय विष्णुदेव प्रसाद सजल की धर्मपत्नी शांति सजल की स्मृति में करवाया जा रहा है। इस पुण्य कार्य के लिए भूमि का दान सजल परिवार के तरफ से किया गया है। वहीं, सेलेब्रिटी हैयर स्टाइलिस्ट डॉ. सिल्बी रोजर्स ने कहा कि यह हॉस्पटल आने वाले समय मे

वहा, सलाभ्रटा हंयर स्टाइलिस्ट डॉ. सिल्बी रोजर्स ने कहा कि यह हॉस्पिटल आने वाले समय मे नवादा जिले के लोगों के लिए एक आशा की किरण साबित होगा। इसके खुलने से लोगों को बेहतर तथा सुचारू स्वास्थ्य सेवाएं आसानी से मिल सकेगी। जबकि हौट मोंडे मिसेज इंडिया वर्ल्डवाइड अमीषा सेठी ने हॉस्मिटल के लिए अपनी ग्रुभकामनाएं देते हुए कहा कि निःसंदेह ही इस हॉस्मिटल के खुलने से जरुरतमंद लोगों तथा रोगियों को असाध्य बीमारियों का इलाज बेहद कम खर्च तथा अच्छे चिकित्सकों द्वारा मिल सकेगी। उन्होंने बताया कि इस नेक कारी। उन्होंने बताया कि इस नेक कारी के सिसेज इंडिया वर्ल्डवाइड की कंटेस्टेंट हैं, वो करीब 20 रेशों में मुहिम चला रही हैं ताकि ज्यादा से ज्यादा लोग इससे जुड़ सकें। मौक पर ट्रस्ट के लोगों सहित कई गणमान्य लोग उपस्तिथ रहे।









Aim of this study

To prepare a Detailed Project Report (DPR) for the establishment of the proposed General healthcare hospital in Nawada, Bihar.

Financial Considerations

Cost of civil works: The General Healthcare hospital building along with engineering services, Interiors Civil works and fittings are expected to be completed in 12 to 18 months. The Estimated cost of construction has been computed on the basis of current market rates of the cost elements like basic excavation, basic masonry interiors, façade, landscaping, electrical mechanical, plumbing, sewage disposal, HVAC etc. The Approximate budget for the building (15,678 sq. ft.) will be Rs. 3,92,23,706/- (Rupees Three Crores Ninety-Two Lacs Twenty-Three Thousand Seven Hundred and Six Only).

Equipment: Estimated cost of equipment (Medical equipment and non-medical items) is Rs.4,50,00,000/-(Rupees Four Crore Fifty lacs only). These estimates are based on advanced specifications of top order.

Furniture, Fixtures & Automobiles: The estimated cost of furniture and fixtures comes around Rs. 80,00,000/ (Rupees Eighty Lacs Only). One ambulance and one general purpose car have been factored with an estimated cost of Rs. 10,00,000/ (Ten lacs only).

Working capital and contingency: In the first year of operation the expense for initial six months is considered as working capital with a computed (as estimated) amount of Rs. 85,00,000/- (Rupees Eighty-Five Lacs only). A contingency fund of amount equal to 2.5% of the total expenses has also been factored. Annual price of service is assumed to be increasing by 5% and at the same time the inflation factor has also be assumed at 5%.



Total cost of Project: (TCOP) In the given scenario the total cost of project is coming to Rs. 10,17,23,706/-(Rupees Ten crores Seventeen Lacs Twenty-Three Thousand Seven Hundred and Six Only).

Hospital Facilities

Medical Specialties & Services

The hospital will have following fully equipped departments/wings:

- OPD
- IPD
- Surgery
- Medicine
- Cancer Treatment
- Gynecology
- Emergency
- X Ray/Scan/Diagnostic/ Pathology Diagnostics & Treatment

Medical Support Facilities

- Operation Theater
- Ambulance
- Medical Records
- Pharmacy (OP & IP)
- Physiotherapy

Medical Equipment

In order to give comprehensive treatment for patients, there's a standard set of equipment that all hospitals should have ready. This list of medical equipment can frequently be refurbished as well as new, allowing hospitals to go to carry reserves for these crucial pieces. The basic one is as follow:

- 1. Hospital Stretchers
- 2. Defibrillators
- 3. Anesthesia Machines
- 4. Case Monitors
- 5. Sterilizers
- 6. EKG/ ECG Machines
- 7. Surgical Tables
- 8. Mask and Fluid Warmers
- 9. Electrosurgical Units
- 10. Surgical Lights

For the cancer treatment

- Proton Therapy
- Tomotherapy
- Linear Accelerators (Intensity Modulated Radiation Therapy)
- Conventional Simulator AND CT-simulator
- MRING ACO

Conclusion

The project conceived by SSR & CT set up a 50 bedded General Healthcare Hospital which have exclusive women & child care wings at Nawada in Bihar has been found to be a feasible and viable project.

The project risk is medium and the mitigation possibilities are very high leading to lowering of the risk potential. However, time and cost overrun have to be seriously managed to bring the project under control.

To spread the message of nature cure, conservation of environment, humanity, health and education for happy healthy living and world peace. To achieve our goal, we organize free treatment camps, talks, seminars, workshop for the general people.

To provide affordable health care facility to the people who are living at the bottom of pyramid and cannot afford affordable health care facilities at large.

Getting the right medical faculty in other specialties will pose medium challenge and as such a strategy to engage key senior faculty from the region who are working in other parts of country or overseas will be the best course to mitigate this challenge. The trust will be outsourcing the recruitment process

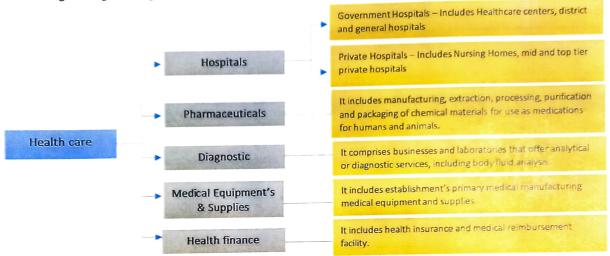
Overall, a very viable project that fulfills the local existing and future healthcare needs of the community and will be an important regional healthcare center of excellence in future with teaching training and research capabilities.



1. INTRODUCTION

1.1 Health Care in India

Healthcare has become one of India's largest sectors - both in terms of revenue and employment. The industry comprises of hospitals, medical devices, clinical trials, outsourcing, telemedicine, medical tourism, health insurance and medical equipment. The Indian healthcare industry is growing at a tremendous pace due to its strengthening coverage, services and increasing expenditure by public as well private players.



The healthcare sector in India offers a potent mix of opportunities and challenges.

On the one hand, the significant gap between 'required' and 'actual' healthcare infrastructure has driven significant investment into assets like hospitals and other facilities over the years. On the other hand, the growing availability and affordability of healthcare is spurring demand for other services like diagnostics, pharmacies, equipment etc. The growth story of the healthcare industry is also contributed by many non-healthcare corporates and private equity firms infusing the much-needed resources (capital and non-capital). Due to the lower cost of procedures, India has become an attractive destination for medical tourism.

Hospitals are largely based in urban areas. Initially, new hospitals derive patients from areas in the immediate vicinity. However, once the hospital develops its brand in the market, it then looks at demand from neighboring areas and towns. Hospitals specializing in complex ailments like oncology, cardiology etc. may see patient inflows from the entire country, in case of day care and OPD centers local vicinity plays a very important role.

Various organizations are coming together for improvements in health care and technology plays a crucial role to facilitate this. Information and communications Technology provides hosts of solutions for successful implementation of these changes.

Futuristic View

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The outlook for the Indian healthcare industry looks positive owing to high growth rate in almost all its segments, whether its primary healthcare, secondary and tertiary healthcare, medical equipment, diagnostics, health insurance or medical tourism. The ever-growing population, increasing government expenditure on health and growing per capita income will increase the size of this industry in the years to come. Rising incomes mean a steady growth in the ability to access healthcare and related services. Moreover, changing demographics will also contribute to greater healthcare spending; this is likely to continue with the size of the elderly population set to rise from the current 96 million to about 168 million by 2026. However, growing health apparences and precautionary treatments coupled with improved diagnostics will result in decreasing

hospitalization period.

Healthcare status of Bihar state

The healthcare has been made both affordable and reachable by setting up a state-wide network of district and sub-divisional hospitals. These are being beefed up with staff and equipment and deficiencies in referral services are being removed.

The state-wide network of health centers includes 50 top hospitals in and around Nawada was established. While the new hospital will immediately cover the villages of Bathia, Lakshmipur, Baliyar, Salempur, Bhaluki, Beryarpur, Budhan Bigharewar and the project is coming up in the Gram Panchayat of Aruri have been set up to provide delivery services in clean and hygiene environment. Major infrastructural improvements are being made to upgrade the existing health institutions to the Indian Public Health standards.

1.2 Approach & Methodology

This section highlights the objectives and methodologies adopted to prepare detailed project report including financial model for establishing a hospital in Nawada, Bihar. The methodologies which were adopted are based on the previous experience of similar studies and standard practice for healthcare market assessment.

Aim of this study

To prepare a Project Report (DPR) for the establishment of the proposed General healthcare hospital in Nawada, Bihar.

Specific Objectives of the study

Market Assessment

- To recognize healthcare needs from patient perspective through sample interviews of patients.
- Through structured interviews with key practitioners to comprehend provider perspectives with regards to requirements for safe and efficient health care delivery.
- To perform a Gap Analysis of the service demand and supply status based on the assessment.
- To estimate the productivity / patient load and the specific service offerings and facilities for the proposed hospital.

Financial Plan

To draw up a financial plan considering the following:

- Estimation of cost of projects
- List and cost of medical equipment's and other fixed assets

Promoter Opinion:

During the discussion with Senior Management of the trust, it was felt that the trust is intending to establish General Healthcare Hospital in future which can develop in an Advanced Multi-Specialty Hospital. Based on the inputs from the trust, a visit to Nawada, Bihar was undertaken thereafter to assess the suitability of selected locations, plot size, primary infrastructure (roads, water, power, and commutability), etc.



Data Analysis & Reporting:

The qualitative information collected from various sources was reviewed and analyzed to:

- Determine the service offerings and facilities for the proposed hospital
- Estimate the patient volume and likely demand for the hospital's services
- Prepare a business strategy for the operation of the hospital

The findings and components of the DPR were shared with the client at periodic intervals. SSR & CT team reviewed their suggestions and the report components were refined to provide a comprehensive report for the proposed hospital.

1.3 Limitations of the Study

The market analysis is qualitative in nature and hence has a limited sample size. Assessment of the healthcare delivery market in the proposed area was subject to co-operation from and responses received from the interviewees and the data that they were willing to share with the interviewer. Whilst questionnaires were prepared for each category of interviewees, discussions concentrated on extracting maximum, pertinent information in the limited time accorded to the surveyor. Estimation of various operational parameters of hospitals and healthcare delivery mechanisms were based on data collected during primary study and information provided by the respondents as well as material analyzed and reported from secondary data.

Shanti Sajal Research & Charitable Trust has selected Nawada, Bihar as potential project site for General Healthcare Hospital which have exclusive women and childcare wings. To conduct market assessment and feasibility study and submit a project report after independent evaluation. The report is thus divided into following sections:

Part A

• Market study and demand estimate

Part B

Project concept

Part C

Financial Detail

2. PART 'A': MARKET STUDY AND DEMAND ESTIMATION

2.1 Geographical Area Profiling

Demography of Nawada, Bihar

Bihar is the most populous state in India with total population of 104,099,452. Nawada is a block in Bihar state, Nawada block population in 2022 is 286,031. Nawada district is situated in the southern part in Bihar and is one of the thirty-eight districts of Bihar. Nawada town is the administrative headquarters of this district. It occupies arrange of 2,494 square kilometers (963 sq mi) and is located at 24.88N 85.53E



Nawada is a Town and Block in Nawada district of <u>Bihar</u> state in India. Total number of villages in this Block is 71. Nawada Block sex ratio is 927 females per 1000 of males.

2.2 Objective

The intent of conducting a Market feasibility study is to study the existing Market for identifying the possibility and viability of a new healthcare set up and to assess whether the project can serve the mankind at large

2.3 Hypothesis

The demand of affordable healthcare services is increasing in the Nawada area due to rapid increase in prevalence of non -communicable disease particularly cancer, cardio vascular diseases and the epidemic of Diabetes mellitus. Keeping in view limited capabilities of government hospitals and improved health seeking behavior on account of health finance, mechanism availability there is a case for detailed study to validate the requirement at a central well-connected location in Nawada. The present study is designed to undertake primary survey, secondary data collection and study of morbidity data to qualify demand estimates for specialist and super specialist medical service is state of Bihar & some bordering area surrounding it.

2.4 Approach & Methodology

Research Included

- Primary data collection
- Secondary data collection

2.4.1 Primary Data Collection:

Personal interview using structured pre tested questionnaire was undertaken. Random stratified sampling was taken from different locations. The subjects were (a) General Public (b) Local practitioners

2.4.2 Secondary Data Collection:

- a. Open sources.
- b. Record reviews.

c. Identified sources like TPA servicing in the area.

2.5 Hospital Market Research: Survey and Results

The parameters on which the information was sought from subjects enlisted below:

- Public and Practitioner response for specialty wise preferred hospital
- Preferred Specialists Specialty wise (as per survey results)
- Major Health Concerns of the people in the area
- Key Health concerns as per practitioner
- Availability of Day care surgery centers in Nawada, Bihar.

Number of hospitals within the radius of 100KM

50 top hospitals in and around 100 km radius of Nawada. While the new hospital will immediately cover the villages of Bathia, Lakshmipur, Baliyar, Salempur, Bhaluki, Beryarpur, Budhan Bigharewar and the project is coming up in the Gram Panchayat of Aruri.

As per the official records, availability of good doctors is not quantifiable but good number of doctors are available round the clock in Nawada.

The new hospital envisaged as a pioneering effort to provide state of the art healthcare facilities in and around Nawada will be totally FREE of cost for the poor and needy sections of the society. The hospital, will however levy a very reasonable and affordable charges for those who can afford.

Demographic Highlights

- Nawada is Block in Bihar state, Nawada Block population in 2022 is 286,031.
- According to 2011 census of India, Total Nawada population is 223,462 people are living in this Block, of which 115,979 are male and 107,483 are female.
- Population of Nawada in 2021 is 277,093 Literate people are 110,060 out of 66,317 are male and 43,743 are female.
- Total workers are 80,003 depends on multi skills out of which 54,006 are men and 25,997 are women. Total 18,350 Cultivators are depended on agriculture farming out of 14,057 are cultivated by men and 4,293 are women.
- 22,745 people works in agricultural land as a labour in Nawada, men are 15,243 and 7,502 are women.

Pakri Brawan Block Population List

Locations/Villages	Population 2011	Male	Female	Households
	2,872	1,523	1,349	515
Kunanpur	2,589	1,357	1,232	421
Thalpos	900	479	421	154
Barhauna	1,027	544	483	129
Lodipur		293	289	79
Bazidpur	582	313	299	86
Odhpura /	612	833	807	244
Baliari 💲	1,640	033	807	244

Keshori	3,754	1,939	1,815	518
Maheshpur	626	320	306	89
Poksi	1,859	954	905	311
Hunrarahi	337	174	163	48
Madhepur	785	412	373	148
Meghipur	1,314	671	643	165
Rohuwa	1,236	644	592	186
Bihta	978	532	446	152
Mehdipur	1,083	586	497	165
Dumrawan	5,159	2,741	2,418	895
Baliyari Buzurg	1,098	569	529	148
Bardiha	1,375	722	653	214
Bhagwanpur Khapura	2,632	1,371	1,261	392
Dhewadha Chhatarwar	12,376	6,473	5,903	1,959
Jalpar	296	158	138	49
Dola	3,058	1,594	1,464	411
Hathiauri	801	438	363	137
Wairani	302	150	152	51
Rais	4,017	2,110	1,907	564
Ukaura	2,596	1,369	1,227	387
Tanpura	1,916	992	924	312
Pakri Barwan	34,715	18,120	16,595	5,147
Rewar	1,888	948	940	301

ARURI POPULATION

Aruri is a village in Nawada district of Bihar, India. It falls under Pakri barwan block. Aruri Population in (2021/2022) is around 5,885-6,726

Few inferences from Demand computations

- Placing reliance on scientific literature on morbidity pattern of drainage area the prevalence of NCDsis significant to create workload for a new hospital at Nawada.
- The demand will escalate over the period with rise in burden of diseases.
- Increasing population, better connectivity and lack of quality healthcare service providers are themajor drivers for growth of healthcare facilities in this region.



2.6 Site appraisal

Site Na	ame		
S.No.	-	Particular	Remark
1	Plot Size	350*51 Sq ft.	Very reasonable plot size with scope for phased project development
2	No of Plots	1	
3	Total Plot Size	17,952 Sq ft.	
4	FAR	1.0	
5	Constructible Area	5226*3 Sq. Ft	
6	Bed Capacity	50	General Healthcare Hospital
7	Location Detail	Main Road	Nawada, Bihar
8	Proposed Facilities	General Healthcare Hospital	
9	Estimated Beds	50	If Additional FAR is Purchased Estimated beds can be extended
10	Over all Sustainability		Excellent

2.7 Scenario Building

The project was further analyzed using the scenario building tool. It emerges that the success of the project demands that it is conceived and progressed as a high end, state of the art comprehensive multi-specialty Healthcare and Cancer hospital. The logic behind this inference comes from the analysis tabulated as under.



3 PART "B": Project Concept

3.1 Project Concept

In view of the inferences drawn from market analysis, perception survey, demand estimation, regional scan and migration pattern of patients to faraway places, it emerges that there is a need to create a facility with all General Healthcare departments under one roof.

The departments which have been factored are as under.

General Healthcare Centers

- Dialysis
- Ophthalmology Surgery
- General Surgery
- Urology.
- Orthopedics
- Gastro Endoscopy Unit.

The support services in terms of diagnostic, imaging and ancillary services will also have to be planned accordingly.

Operation Theaters: Based on overall morbidity pattern and expected surgical workload a total of 3 Operatingrooms have been factored.

Construction: Excluding basement a total of 10,452 Sq feet is the area to be constructed. Being a hospital which will cater to the needy people and since the affordable health care facility is not in abundance, effort need to be made to make the hospital occupancy as large as possible.

Power, Water, STP, Waste disposal etc.: The area has abundant water supply and ground water can also be exploited. The power supply will be drawn from the regular sources but a 100% power back up with a substation and generator cluster will be needed.

As per NBC standards, the per capita water requirement is 450 LPCD (liters per capita per day) for hospitals. SSR&CT has estimated the water demand as 151KLPD.

Laundry: Outsourcing of laundry is a cost-effective measure now a days for the hospital. Lots of laundry services are available in the market which caters to hospitals only.

Kitchen: If Dietary service is part of hospitality set up and it is best to have a professional group running it through a contractual arrangement. This improves the availability of quality services and can cater to entire staff as well as clientele.



Fire and Safety: The National Building Code of India issued by the Bureau of Indian Standards specifies several layers of safety precautions that should prevent the loss of life during fire – Ref *National Building Code 2005* (NBC 2005). Promoters proposes to design & construct the hospital building as per NBC Code.

3.2 Statutory Approvals

The approvals and clearances required for running a hospital are provided below:

- Building plans have been approved by Nawada Bihar Authority
- Provisional NOC from Fire Department
- Provisional NOC from Bihar Pollution Control Board
- Permission for digging
- Registration from Chief Medical Officer, Bihar
- VAT Registration for pharmacy
- Approval for Radiological Safety Officer by Atomic Energy Regulatory Board
- Layout approval for the radiation Equipment's (X-ray, Mammography, Bone densitometry, Radiography/Fluoroscopy)
- Electricity Connection
- NOC from the State Fire Department.
- Water connection
- NOC from Bihar Pollution Control Board
- Hazardous Waste Management Certificate
- Accreditation from NABH after 1 year of operation from COD
- VAT Registration for food & beverage sale of cafeteria.
- Retail License of Pharmacy OPD and IPD services
- Permit for use of rectified spirit & absolute alcohol
- Permit for use of morphine, pethidine & other such drugs
- License under Poisons Act
- License for storage of acids & other hazardous chemicals
- License for running cafeteria & dietary services
- Permit under Biomedical waste (management & handling rules) 1998
- Registration for plying of vehicles & ambulance
- Registration for use of ultrasound / echocardiography under PNDT Act.
- Registration under MTP Act 1971
- License for use of lifts
- License for installation of liquid oxygen tanks, cylinders & manifold services
- Certificate for exemption of customs duty during import of machinery & equipment
- Permit to install & use generators for backup power
- NOC for storage of petroleum product like High-Speed Diesel
- NOC certificate for Water testing
- NOC certificate for Air testing
- NOC for Noise Pollution
- RO plant and water softening plant from Bihar pollution control board
- Rain water harvesting



3.3 Non-Statutory Requirements

Hospital Operations: The hospital will be operated in adherence with the NABH standards. The Standard Operating Procedures for all sections of NABH covering all objective elements will be prepared and after one year of implementation, based on records maintained & evidence of quality management generated, NABH will be approached for inspection and accreditation.

Material Management: The material management will cover the entire range of hospital supplies needed for the operations of its services. It shall be a computer-based system with a centralized database of procurement and distribution to optimize the cost effectiveness. All supplies shall be on the following policy unless specified to be otherwise:

- Exchange cart system for low volume, high use articles (about 30%)
- Top up system for high volume low use articles (about 60%)
- Replenishment on demand for low volume, low use and high volume, high use articles (about 10%)
- Standardizing accounting of the Consumables to induce efficient storage & retrieval system.

The consumables required in the day-to-day operations of the services in the hospital are:

- Diagnostic Reagents & Chemicals
- X-Ray Films, Reagents & Chemicals
- Drugs, Surgical Items and Surgical Sutures
- Disposable Drapes, Rubber Goods, Instruments and Syringes etc.
- Housekeeping Items
- Engineering Items
- Office & Computer Stationery etc.
- Other Miscellaneous & Sundry Items

Pharmacy: It is proposed that the hospital runs 24X7 In house pharmacies based the formulary which will be prepared in consultation with clinicians from time to time. Pharmacy is also a profit center. In addition, the super specialty disciplines demand certain drugs which can only be stocked in such centers due to low consumption rates but high cost.



4 PART "C": FINANCIAL ASSESSMENT

4.1 Financial Assessment

Total Cost of the Project: The total cost of the project (Phase 1) is arrived after calculating the investments that has already incurred for the project and the expected investments that may be incurred for remodeling, procurement of additional equipment, furniture, Automobiles and other expenses towards operationalization of the hospital. The total cost of the project is Rs. 10,17,23,706/- (Rupees Ten Crore Seventeen Lacs Twenty-Three Thousand Seven Hundred and Six only). It covers Basement, Ground Floor and First Floor which will facilitate general ward and women and childcare department only.

Civil Construction and Engineering: The hospital building along with engineering services, Interiors Civil works and fittings will supposed to complete in next in 18 months. The Estimated cost of construction has been computed by taking into account the approximate recent market cost of all relevant factors which includes civil works, Interiors, Façade, Site Development, Landscaping, Engineering Works etc. The Approximate budget for the building will be Rs. 3,92,23,706/- (Rupees Three Crore Ninety-Two Lacs Twenty-Three Thousand Seven Hundred and Six only).

New Equipment: The Equipment required meeting the service and facility requirements of Medical and Non-Medical shall have to be procured new. The total estimated costs of Equipment both medical and non-medical are Rs.4,50,00,000/- (Rupees Four Crores and Fifty Lakh Only). List of such equipment has been worked out.

Furniture and Fixtures: A department wise listing of medical and non-medical furniture along with the quantity requirement is considered for the proposed hospital. The rates have been taken after doing market survey in Delhi and getting estimates from recently concluded projects of similar magnitude. The total cost of medical and non-medical furniture is estimated to be Rs. 80,00,000/- (Rupees Eighty Lacs only)

Automobile: One Ambulances and One general purpose car have been considered to procured for the hospital with an estimated cost of **Rs. 10,00,000/- (Ten Lacs Only)**.

Working Capital & Pre- Operative Expenses: First year annual average expense for the six months is considered as working capital and that estimated amount is Rs. 85,00,000/- (Eighty-Five Lacs only).



PROPOSED HOSPITAL (PHASE I) BUILDING AT NAWADA BIHAR							
ESTIMATE OF COST							
S. N o.	ltem	Qty	Unit	Rate	Amount (in Lacs)	Remarks	
1	RCC basement and Super Structure	15678	Sq ft	Rs. 850	Rs. 133	RCC Framed super-structure, basement , Raft foundation	
2	Civil Finishes	15678	Sq ft	650	101	composite Stone flooring in public area, vinyl in equip., ICU and OT areas, Vitrifiedtiles in rooms, Brick work partitions, cement sand plaster, OBD, Textured paint on exterior walls, Aluminum windows, Laminated Flush doors with saal wood frames, paver block outside on selected area	
3	Internal Electrification	15678	Sq ft	160	25	Copper wiring in MS conduits, surface/concealed fittings, Distribution boards with MCBs, LED lights, Data wiring, Communication cabling	
4	Internal water supply and sanitary work	15678	Sq ft	110	17.24	cPVC water supply, uPVC waste and soil waste lines, CP fittings, chinaware	
5	Fire fighting and Detection system	15678	Sq ft	75	11.75		
6	Electrical sub-station	200	Kv A	LS	12	Connection on 11 KV HT, 400 KvaTransformer, LT panels, HT and LT cabling, provision for 2nd transformer	
7	DG sets	2X125	Kv A	LS	1.4	3,	
8	Centralized Medical gases	0	Pts.	0	0	Oxygen, Nitrous oxide, Compressed air and Vaccu system, Plant room for full hospital	

9	Patient Kitchen HVAC works			LS	0	Outsourced
10	a)	20	Tr.	80000	16	VRV/ chillers system, Dbl. skin AHUs, IDUs/ FCUs, LFD in OT thru HEPA filters
11	b) External Develóp	50 ment	Tr.	35000 LS	17 0.3	Area with comfort AC Boundary wall, Pavement, horticulture
12	Main gate & guard house	1	L.S.	L.S.	3	and land scaping
13	NRx system	0		0	0	Nurse call system with addl. Assistance and UMI
14	Civil furniture		L.S.	L.S.	8	Reception, waiting area, Consultation chambers area and other civil furniture, Restaurant furniture by operator
15	WTP and STP			LS	0.8	As per govt. norms
16	Audio-video			LS	0.1	High end equip.
17	Hot water generator including solar heaters for preheating	s		LS	0.2	Solar + HSD
18	Elevator (1 bed lift)			LS	25	1 bed can be procured later (cost Rs.25 lacs)
				Total	373.55	
	Contingencies					
	@ 5%				18.67	
			(In Lakhs	•	392.23 3.92	



4.1 Conclusion

The project conceived by Shanti Sajal Research & Charitable Trust to set up a 50 bedded general healthcare and cancer hospital at Nawada, Bihar has been found to be a feasible and viable project. The demographic profile, morbidity data and market assessment survey in the region indicate that there is work needed to be done for the welfare of weaker section of society in this region.

The project risk is medium and the mitigation possibilities are very high leading to lowering of the risk potential. However, time and cost overrun have to be seriously managed to bring the project under control.

Getting the right medical faculty will pose medium challenge and as such a strategy to engage key senior faculty from the region who are working in other hospitals of the city will be the best course to mitigate this challenge. Overall, a very viable project that fulfills the local existing and future healthcare needs of the community and will be an important regional healthcare center of excellence in future.

Layout of the site Plan were attached:

- 1. Basement Floor Site Plan
- 2. Ground Floor Site Plan
- 3. First Floor Site Plan

For DSRV & Co LI

Membership No: 505655 Firm Reg No: 06993N



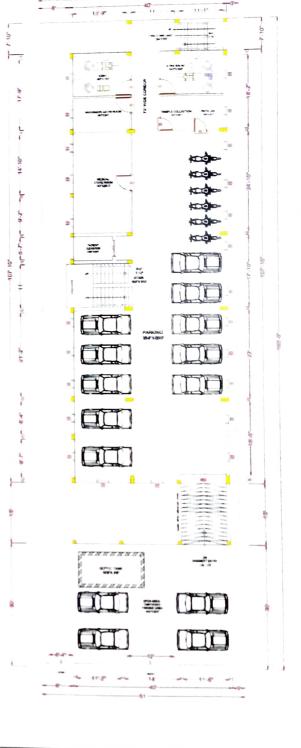
- 1 This drawing shall not be reportuced without prior permission of designer
- 2 in case of any discrepancy between structural drawings & site conditions.
- 3 Do not scale the drawing, written dimensions to be followed roter to concurring engineer.

Total Plot Area (As Per Site) - 17952 Sqft / 41.21 Decimal

Plinth Area / Construction Area - 5226 Sqft (without porticon)

Front Parking Area / Open Area - 1200 Sqft

Open Land Area / For Future Construction - 9758 Sqft Height of First Floor-10'6" (including 6" Slab)





DRAWING TITLE

BASEMENT PLAN

PROJECT NAME AND ADDRESS

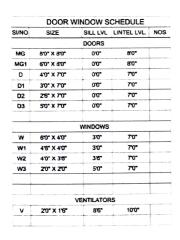
PROPOSED HOSPITAL BUILDING PLAN FOR SHANTI SAJAL RESEARCH AND CHARITABLE TRUST. AT - PAKRIBARMA (BUHAR)



DRAWING NO :-- 2022

SCALE DRAWN & CHECKED

18/07/22 SCALE Er Manoranjan Kum



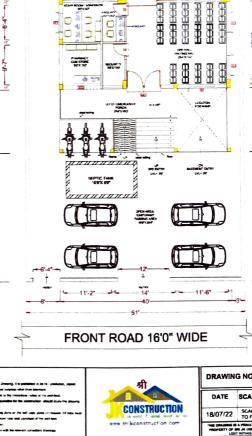
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72" WIDE INTERNAL PASSAGE FOR OTHER BLOCKS

107-10

ORIENTATION :-

DRAWING TITLE:

GROUND FLOOR PLAN

PROJECT NAME AND ADDRESS:

PROPOSED HOSPITAL BUILDING PLAN FOR SHANTI SAJAL RESEARCH AND CHARITABLE TRUST, AT - PAKRIBARMA (BIHAR)

DRAWING NO :-- 2022 SCALE DRAWN & CHECKED SCALE TO FIT Er. Manoranjan Kum.

E

