

SPORTSPLEX

REGIONAL SPORTS COMPLEX FOR KONKAN DIVISION

By

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19AR16

A REPORT

Submitted in partial fulfillment of the requirements for the degree of
Bachelor of Architecture.



University of Mumbai

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1. ABSTRACT

This dissertation aims to encourage Olympic-level sports in Maharashtra's Konkan division by exploring the connection between the importance of physical activity, social interaction, cultural identity, and the need for better sports facilities in the region. It's part of a larger project called "Promotion of Regional Sports Complex for Maharashtra's Konkan Division," which aims to improve sports through facility design. The research looks at the lack of world-class sports facilities in Maharashtra and how it affects athletes who have to travel to other states for training.

There are two main goals in this study. First, it will highlight the shortcomings in sports infrastructure in Maharashtra and propose solutions to address them. Second, it seeks to raise awareness among the current generation about Indian international sports and their significance, encouraging them to participate in real sports rather than just playing video games. The research also explores potential future sports venues with the aim of promoting and preserving international-level Indian sports and ensuring they don't fade away in today's society. The initiative combines research, innovative solutions, and design to protect, sustain, and promote India's sports.

"The character of a nation is determined by the character of its sports." - Dwight D. Eisenhower



Fig. 2 Sports Played in India

(Source: Khelo India Illustration)

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3. INTRODUCTION

In India, sports management has greatly improved in the past 30 years, with various sports like IPL, pro kabaddi, and the federation cup being well-organized. Notably, international events like the ICC World Cup and Asian Games are also managed effectively. Cricket is hugely popular, but sports like football, hockey, and badminton are gaining traction among young people.

However, India's Olympic performance remains disappointing due to inadequate encouragement of sports in schools and colleges, along with a lack of proper facilities. UNESCO has suggested making physical education and sports compulsory worldwide to promote a healthier lifestyle.

Success in sports depends on many factors, including having good facilities and equipment in universities, colleges, and sports institutions. These facilities include fields, courts, and equipment like rackets and hockey sticks. They play a vital role in athlete development.

India's youth, representing a significant portion of the population, need the right infrastructure to excel in sports. India has a young population, with over 65% under the age of 35. To harness their energy, the government must provide suitable sports infrastructure at both national and international levels.

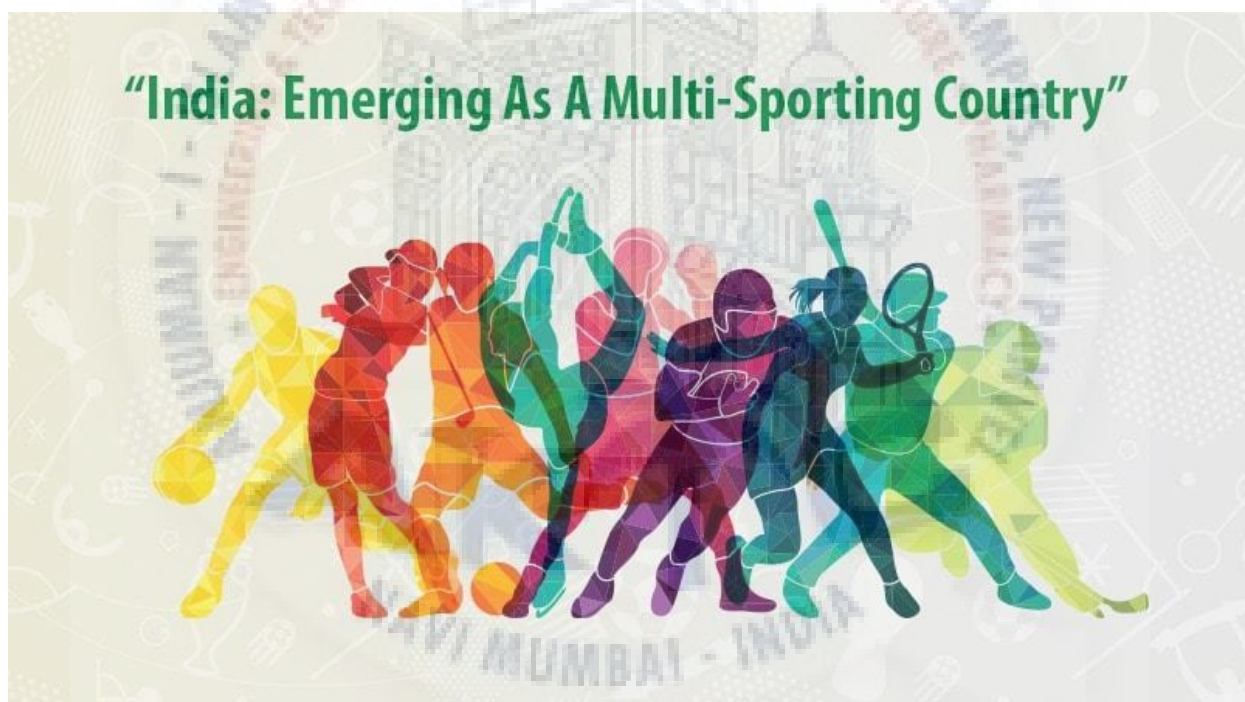


Fig.2 Indian Sports

(Source: International Institute of Sports and Management)

3.1. DESCRIPTION AND CHARACTERIZATION

SPORTS-An endeavour that requires both mental and physical effort, and is carried out in accordance with certain guidelines.

SPORTS AUTHORITY OF INDIA (SAI)- The top authority for sports in India is the organization that makes the rules. It was established in 1984 by the Indian government's Ministry of Youth Affairs and Sports. Its main goal is to help sports develop in the country.

KHELO INDIA- Khelo India aims to enhance India's sports culture from the very beginning by finding talented individuals, arranging competitions, and building better facilities. The initiative was launched in 2017-18 by Prime Minister Narendra Modi and Sports Ministers Vijay Goel and Rajyavardhan Singh Rathore.

SPORTS COMPLEX-A sports zone is a group of various places for sports. It includes places like tracks for running and field events, fields for football, areas for baseball, places to swim, and buildings for exercising.

ARENA- the enclosing of a space for the purpose of exhibiting sports and others spectacles to an audience.

ATHLETIC CENTRE- is a collection of different athletic venues.

STADIUM- A large structure where sports are held, usually open on all sides, and with raised seating for people to watch.

3.2 BACKGROUND STUDY

3.2.1 SPORTS IN INDIA

In a country with more than a billion people, only a few individuals become successful champions in sports. Many talented athletes give up on their sporting dreams because they don't receive the recognition they deserve. In India, the sports culture is not very strong, and considering sports as a career is uncommon.

When we think about "sports," we often see it as a hobby, a way to stay fit, but not really a viable career option. In fact, out of every ten people, only one dreams of pursuing sports as a career. When asked why, many people believe there are limited opportunities in this field. People generally think of sports as something you do in school or college, not as a way to make a living.

Despite India's large population, the country consistently performs poorly in the Olympic medal tally. The aspirations of athletes to win medals for India at the Olympics often go unfulfilled because they lack proper support. India lacks good coaches, adequate facilities, and government programs to help athletes succeed.

According to India's constitution, sports is a responsibility of the state governments. Each state allocates funds for sports development and infrastructure based on their priorities. There's no unified approach to developing sports facilities across the country. A significant challenge is the limited availability of land for building sports infrastructure. Moreover, there hasn't been much effort to promote public-private partnerships to ensure the sustainability of these facilities. India has also not fully explored the potential for generating revenue from sports infrastructure.

"My ultimate aim in life is to have a sporting culture in india"
Virat Kohli

3.2.2. WHAT IS SPORTS?

Sports encompass all competitive physical activities, whether they're informal or organized, aimed at utilizing, maintaining, or improving physical abilities and skills while providing entertainment to both players and sometimes, spectators. The term "sports" is commonly used to describe activities where an individual's physical abilities are the main factor in determining the outcome (winning or losing), but it also applies to activities like mind sports and motorsports, where mental sharpness or the quality of equipment significantly influences performance.

In every culture, ancient or modern, there exists a unique understanding of what constitutes sports. Depending on the level of physical exertion involved, the term "sports" can refer to any competitive activity that involves offense and defense. Sports require physical movement and energy expenditure. When we think of sports, we imagine sweating and physical fatigue. Engaging in sports improves the specific body parts used in that sport because they get exercised during the physical activity.

Sports are governed by a set of rules and regulations. Certain behaviors are discouraged and penalized, while others are encouraged and praised when athletes compete in a particular sport. These rules are established beforehand and, in most cases, have remained largely unchanged for many years. Similar to electronic games, sports discourage cheating, as such behavior goes against the spirit and purpose of the activity.



Fig.3 Indian Sports

(Source: Dreamstime)

Most people play sports because they either like it or know it's good for their health. Athletes should be good sports by being nice to their opponents and the referees, and by giving credit to the winner even if they lose. Winning isn't everything in sports.

3.2.3. IMPORTANCE OF SPORTS?

Engaging kids in sports and physical activities can be really good for them. It helps them become better at making friends and being active. But it's important to make sure they do activities that suit their age and interests.

Playing sports also teaches kids important life skills like making decisions and solving problems. It encourages teamwork, fairness, self-control, trust, and respect for others. Plus, it helps them learn how to be leaders and handle tough situations. These skills are important for kids to grow up as responsible and confident adults.

Sports can also help make things more equal for everyone. Even kids with disabilities can gain confidence from playing sports. When they're on the field, what matters is their skills, not their disabilities. Sports can also be used to teach communities about staying healthy and preventing disabilities through things like vaccines, good food, and hygiene.

3.2.4. SPORTS AND EDUCATION

Schools are great places for kids to play sports because they have lots of students. Playing sports isn't just about being smart; it helps kids grow in many ways, making it easier to learn in class.

When kids play sports, they can do better in school and come to school more often. In gym class, they learn how to be healthy and stay fit. They also learn things they can tell their family to help them be healthy too.

Playing sports also gets the community and families excited about school. Parents can get involved by coaching, joining school clubs, or coming to watch games and events after school. This helps parents be a part of their kids' education.

3.2.5. DEMINISHING SPORTS, WHY?

- India is slipping farther and further behind in the sporting world due to a lack of support from the general population and a lack of leadership. In India, academic pursuits continue to take precedence over extracurricular activities such as sports and hobbies. There are many issues plaguing Indian athletics, but the following ones should be addressed and resolved before any others.
- **Lack of sporting culture-**
A country's progress can be measured by how good it is at sports, and taking part in sports events can make a country more respected and proud. It's a concern that the most advanced and industrialized countries tend to do really well in sports. Even though we brought in sports like cricket, our athletic culture didn't grow before we gained independence. Later on, games like tennis, badminton, and volleyball became popular. However, even after we became independent, our sports culture didn't become strong, and we weren't very successful in international sports. Unfortunately, there aren't many significant efforts being made to improve our country's sports culture.
- **Access issues with sporting facilities-**
In cities with lots of buildings and development, there aren't many open spaces for sports. Not everyone can afford fancy sports facilities in a city-focused culture. This makes a gap between rich and poor people when it comes to sports. In many Indian cities, the desire to play sports clashes with the lack of places to play, and this discourages people from getting involved in sports. It stops talented people from getting better at sports. To grow sports in the country, we need programs or places where everyone can play and join in. This will help our national sports scene.
- **Sports is restricted to schools and colleges-**
Talented individuals are mainly noticed while they're in school or university, but once they graduate, they don't get much support or encouragement. Even though schools now have sports education as a required subject, it's not always taken seriously. Sports should be an important part of education because they help kids grow physically and mentally. In big cities in India, many people don't play sports because they see them as just a way to relax, not something serious. If parents and leaders in the country team up to promote sports and make people more aware of their benefits, young athletes will have a better chance to succeed.
- **Not enough attention to grassroots level programmes-**
Becoming a top sports nation doesn't just need a lot of money; it also takes a lot of time, hard work, and support for local sports from the ground up. While sports have a long history in India, it won't benefit the country if aspiring athletes don't get the right help. When parents and schools team up to motivate kids, we can reach these goals.
- **Lack of remuneration-**
Sportspeople face intense competition, much more than the recognition they receive. Those aiming to succeed in this field won't have financial stability until they reach a certain level of fame. This can be discouraging for athletes, causing them to abandon their dreams.

3.2.6. SPORTS IN INDIA

Sporting events can enhance a country's reputation and pride, serving as a measure of its progress. Unfortunately, it's concerning that the most developed and industrialized countries tend to perform well in sports. Despite introducing sports like cricket before independence, India's sporting culture didn't fully develop. Even after gaining independence, the country faced obstacles in international competitions, and efforts to revitalize our sports culture have been limited. Popular sports in India include badminton, football, basketball, chess, shooting, wrestling, boxing, tennis, squash, weightlifting, gymnastics, and table tennis. India also has traditional sports like Kho-kho, Kabaddi, Fighter kite, Polo, and Gillidanda.



(Fig.4 Emerging Athletes from India)

BEFORE INDEPENDENCE-

It can be said that sports in India have a long history, going back to ancient times, especially during the Vedic era. Ancient India valued physical fitness and had a strong connection between sports and religious freedom. This is evident in the Atharvaveda mantra, which talks about the importance of both victory and duty, much like the original Olympic Oath that emphasizes honoring one's country and the spirit of sports.

Badminton is believed to have its roots in India, evolving from a children's game called battledore. In badminton, two people play on a team. India also contributed to the world of games with inventions like chess (known as chaturanga), Snakes and Ladders, and playing cards, which were later adopted by other countries and adapted to modern society. In essence, India has a rich sporting heritage dating back to ancient times, reflecting its deep cultural and historical significance.

During the time of Major Dhyanchand, known as the "Hockey Wizard," the Indian National Hockey Team became famous for winning gold in the 1928, 1932, and 1936 Olympic Games. They went on to

win 30 consecutive matches until 1960 and were the first non-European team to join the International Hockey Federation. This incredible winning streak is what led to hockey being seen as India's national sport.



Fig.5 (1928 - The Golden Hat-trick of the National Hockey Team)

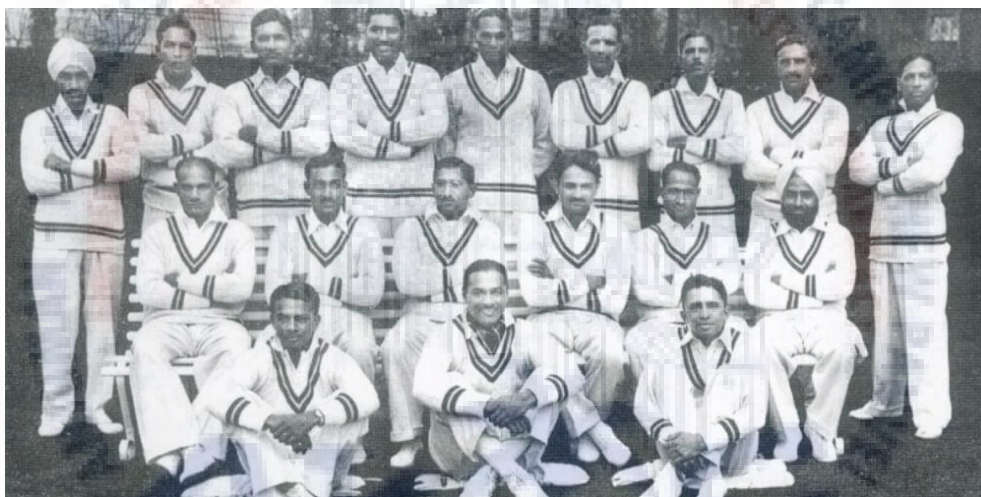


Fig.6 (1932 - The debut of Indian Test Cricket)

AFTER INDEPENDENCE-

New Delhi was the proud host of the Asian Games in 1951 and then again in 1982. In 1982, the Department of Sports, which later became the Ministry of Youth Affairs and Sports, was established for the IX Asian Games held in New Delhi. The name change happened during the International Year of Youth celebrations in 1985, bringing much joy to the entire country.

India has been a host or co-host for several major sporting events, including the Cricket World Cup in 1987 and 1996, the Afro-Asian Games in 2003, and the Hockey World Cup in 2010. Some notable international athletic events in India include the Indian Masters, Chennai Open, Mumbai Marathon, and Delhi Half Marathon. The Mumbai Marathon and Delhi Half Marathon are especially significant. In 1987, 1996, and 2011, India co-hosted the Cricket World Cup and also hosted the Indian Grand Prix, making these events significant moments in India's sports history.

3.3 MINISTRY OF YOUTH AFFAIRS AND SPORTS

The Ministry of Youth Affairs and Sports handles India's Departments of Youth Affairs and Sports. When New Delhi hosted the 1982 Asian Games, the Ministry was called the Department of Sports. Its name was changed during International Youth Year, 1985. Separated on May 27, 2000. The Ministry was split into the Department of Youth Affairs and the Department of Sports in 2008.

Autonomous National Sports Federations promote sports. The government's duty is to encourage broad-based sports and achieve excellence in national and international competitions. These goals are achieved via Department strategies.

3.3.1. SPORTS AUTHORITY OF INDIA (SAI)

The Ministry of Youth Affairs and Sports of India founded the Sports Authority of India (SAI) in 1984 to encourage sport in India. SAI has 2 sports academies, 10 regional centres, 14 centres of excellence, 56 sports training centres, and 20 special area games (SAG). SAI also maintains Netaji Subhash High Altitude Training Centre (Shilaroo, Himachal Pradesh) and 5 stadiums in Delhi, including Jawaharlal Nehru Stadium (also SAI's national head office), Indira Gandhi Arena. Dhyan Chand National Stadium, SPM Swimming Pool Complex, and Dr. Karni Singh Shooting Range.

Netaji Subhas National Institute of Sports (in Punjab) and Lakshmi Bai National College of Physical Education (in Kerala) undertake research and provide certificate to PhD-level courses in physical education and sports medicine.

3.3.2. SPORTS AUTHORITY OF INDIA (SAI) REGIONAL CENTRES-

1. SAI Netaji Subhas Regional Centre, Chandigarh
2. SAI Chaudhary Devi Lal Northern Regional Centre, Sonapat, Haryana
3. SAI Netaji Subhas Regional Centre, Lucknow, Uttar Pradesh
4. SAI Netaji Subhas North-East Regional Centre. Guwahati, Assam
5. SAI Netaji Subhas North-East Regional Centre, Imphal, Manipur
6. SAI Netaji Subhas Eastern Centre, Kolkata, West Bengal
7. SAI Udhav Das Mehta Bhaiji Central Centre, Bhopal, Madhya Pradesh
8. SAI Netaji Subhas Southern Centre, Bengaluru, Karnataka
9. SAI Regional Centre, Mumbai, Maharashtra
10. SAI Netaji Subhas Western Centre, Gandhinagar, Gujarat

3.4 SPORTS IN MAHARASHTRA

In Maharashtra, sports play a big role in the culture, and cricket is the most loved sport to watch. In cities, schools and colleges take part in sports like kabaddi, field hockey, badminton, and table tennis. But in rural areas, kho-kho and kabaddi are really popular. In the southern rural parts, there are big wrestling competitions like Hind Kesari and Maharashtra Kesari. Among young people, games like Viti-Dandu and tag sports are also very popular, showing that there's a wide variety of sports enjoyed in the state.

INTRODUCTION

Maharashtra is known for its strong sports tradition, with many talented athletes who have excelled both in India and around the world. The state has a history of supporting sports and has built top-notch sports facilities to help athletes. The Maharashtra Sports Department has invested in sports infrastructure, hosted big international events, and built excellent facilities for athletes.



Fig.7 (Sports in Maharashtra)

Many talented athletes from Maharashtra have become famous for their outstanding achievements in sports, both in India and around the world. Here are some of the most notable individuals who have made Maharashtra proud through their sporting excellence:

1. Sachin Tendulkar - Cricket
2. Dhanraj Pillay - Hockey
3. Prakash Padukone - Badminton
4. Leander Paes – Tennis
5. Sania Mirza – Tennis

6. Viswanathan Anand - Chess
7. Saina Nehwal - Badminton
8. Sunil Gavaskar - Cricket
9. Pankaj Advani - Billiards and Snooker
10. Mary Kom - Boxing
11. Deepa Malik - Paralympic Athletics
12. Geeta Phogat - Wrestling
13. Sushil Kumar - Wrestling
14. Gagan Narang - Shooting
15. Anjali Bhagwat - Shooting

Athletes from Maharashtra have represented India in the Olympic Games and have won medals and achieved success in several events. Some notable contributions and achievements include:

1. **Badminton:** P.V. Sindhu, who hails from Hyderabad in Telangana, but trains in Hyderabad, has been a prominent figure in Indian badminton and has won medals at the Olympics.
2. **Wrestling:** Maharashtra has a strong tradition in wrestling, and the state has consistently produced talented wrestlers who have competed at the Olympics. Wrestlers like Khashaba Dadasaheb Jadhav, who won India's first individual Olympic medal in 1952, have made the state proud.
3. **Shooting:** Maharashtra has produced talented shooters like Gagan Narang, who won a bronze medal in the 2012 London Olympics, and Rahi Sarnobat, who won a gold medal in the women's 25-meter pistol event at the 2020 Tokyo Olympics.
4. **Archery:** Deepika Kumari, who was born in Jharkhand but trained in Pune, Maharashtra, is a prominent archer who has represented India in multiple Olympic Games.
5. **Athletics:** Maharashtra has also produced track and field athletes like Milkha Singh, who was one of India's most celebrated athletes and represented India at the Olympics.
6. **Boxing:** Mary Kom, a celebrated Indian boxer who has won several medals at the World Championships and Asian Games, hails from Manipur but has trained in Pune, Maharashtra.

It's good to remember that even if some athletes aren't originally from Maharashtra, they've trained and spent a big part of their sports career in the state.

MAJOR MAHARASHTRA SPORTS:

Maharashtra, a state in India, really loves sports, and they have a bunch of different sports that people enjoy. Here are some of the popular ones:

- **Cricket:** People in Maharashtra really, really like cricket. They've had some super famous cricketers like Sachin Tendulkar, Sunil Gavaskar, and Dilip Vengsarkar.
- **Football:** Football is a big deal in places like Mumbai and Pune in Maharashtra. They have good players and their own football leagues and teams.
- **Kabaddi:** Kabaddi is like a traditional game in Maharashtra. People love it and even have teams in the Pro Kabaddi League.
- **Hockey:** Maharashtra is into hockey too. They've had some famous players like Dhanraj Pillay who played for India.
- **Badminton:** Badminton is getting more popular in Maharashtra. They've got some talented players like Saina Nehwal and Parupalli Kashyap.
- **Wrestling:** Maharashtra has a strong wrestling tradition. They've had successful wrestlers like Geeta Phogat and Sushil Kumar.

SPORTS FACILITIES IN MAHARASHTRA:

Maharashtra has many big sports places for different kinds of games. Some important ones are:

- **Wankhede Stadium in Mumbai:** It's a famous cricket ground where the Mumbai Indians play in the IPL.
- **DY Patil Stadium in Navi Mumbai:** This stadium hosts cricket and football matches, along with other sports events.
- **Brabourne Stadium in Mumbai:** Another old cricket ground in Mumbai that has seen lots of international games.
- **Cricket Ground in Pune:** It's a cricket field in Pune used for both local and international matches.
- **Balewadi Sports Complex in Pune:** A modern sports hub with a big swimming pool, indoor sports areas, and tennis courts.
- **Shree Shiv Chhatrapati Sports Complex in Pune:** This place has many sports areas, including a running track and indoor stadiums.

REGIONS OF MAHARASHTRA:

The state of Maharashtra is composed of approximately 35 districts, which are further organized into subdivisions. From a geographical perspective, Maharashtra is categorized into five regions, each of which aligns with political and historical significance:

- **Vidarbha:** This region encompasses Nagpur and Amravati divisions and corresponds to the former Berar Region.
- **Marathwada:** It comprises the Aurangabad Division.
- **Khandesh and Northern Maharashtra Region:** This area is represented by the Nashik Division.
- **Desh:** Encompassing the Pune Division.
- **Konkan:** This region corresponds to the Konkan Division.

CHALLENGES FACED:

- Lack of Funding
- Limited Sports Facilities
- Insufficient Support for Athletes
- Limited Employment Opportunities
- Poor Governance
- Poor Infrastructure

3.5. HYPOTHESIS

Sports are games and physical activities that people have been playing for a long time. They're important for our history and shape who we are as a society. They also teach us important values. But, because some sports don't get enough attention or the right places to play, they're becoming less popular. So, we need to give them more support and bring them back.

"Architecture pertaining to games, sports, body and movement is about much more than just putting a roof over some competitive activities. The architecture may potentially increase the joy of movement and inspire both children and adults to participate in sports, play and social interaction entirely new ways."

[Dorte Mandrup, 2011]

This project focuses on the intersection of "architecture," "sports," and "culture". Specifically, the project will delve into the areas of "sports infrastructure," "physical movement," and "cultural heritage," all of which contribute to social engagement and interaction.

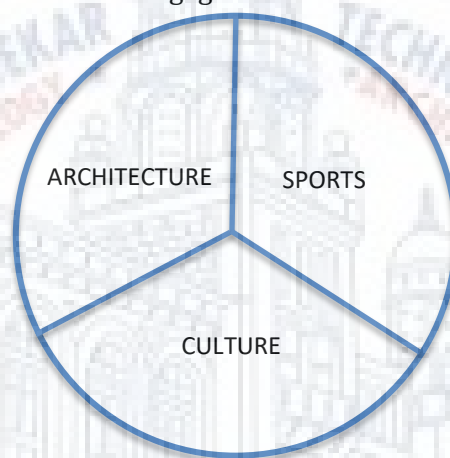


Fig.8 (Connectivity Between Sports, Architecture and Culture)

The suggested architectural intervention has the potential to reintroduce the significance of sports to the present generation. This would be advantageous for individuals, groups, and communities. An additional positive outcome would be a rise in the participation and success of individuals in sports events and competitions. It will also direct attention and resources towards lesser-known sports, enabling the talents that already exist to excel on a global stage despite the current infrastructure limitations.

REASON FOR SELECTING THIS TOPIC:

India didn't do well in the recent Beijing 2022 Winter Olympics and Tokyo Olympics, mainly because they don't have enough good sports facilities. In big cities like Mumbai, sports isn't a top priority, and there aren't many good places to play because the city is crowded with buildings and people moving in. Even though there are some sport centres in Mumbai, they get overcrowded, and there's not enough space for young people to play and develop their talents. It's surprising that a major city like Mumbai doesn't have many good sports complexes with both indoor and outdoor areas for training and other amenities like sports libraries and restaurants.

In the middle of all the buildings in the city, a well-designed sports complex would be essential for people to have fun and experience something new. Making a sports complex is a great thesis project because it requires creativity in designing the space, the structure, and different services.

Sports teaches you character, it teaches you to play by the rules, it teaches you to know what it feels like to win and lose – it teaches you about life.

— Billie Jean King

3.6. AIM, OBJECTIVE , SCOPE, RESEACH QUESTION

AIM:

To analyze and address the issues in sports infrastructural facilities in India, promoting a robust sports culture among the youth and nurturing potential athletes.

OBJECTIVES:

- Conduct a thorough study to identify the current problems with sports facilities in different parts of India.
- Using technology to improve the overall sports experience.
- Making sure the design is inclusive, so it can be used for various sports activities.
- Things that affect how young people get involved in sports:
 - Making places that encourage a sense of community and excitement.
 - Designing buildings in a way that attracts and keeps young athletes interested.
- To promote sports spirit and culture, by using design changes to encourage players to play fairly and work together as a team.
- To create special places that help us find and nurture talented people. This includes building amazing training centers and sports complex.

SCOPE:

- Identification of the key issues and challenges faced by athletes, coaches, and sports enthusiasts due to the lack of adequate sports facilities.
- Designing inclusive sports complexes that cater to various sports activities and can accommodate people of different ages and abilities.
- Focus on identifying and nurturing talented young athletes through specialized training centers and programs.

RESEARCH QUESTIONS:

1. What are the main challenges and limitations faced by existing sports facilities in different parts of India, particularly in major cities like Mumbai?
2. How do the lack of sports infrastructure and facilities affect the participation and development of young athletes in India?
3. What are the key factors influencing the declining interest in sports among young people in urban areas?
4. How can technology be utilized to enhance the sports experience and address the issues faced by sports facilities in India?

3.7. RESEARCH METHODOLOGY

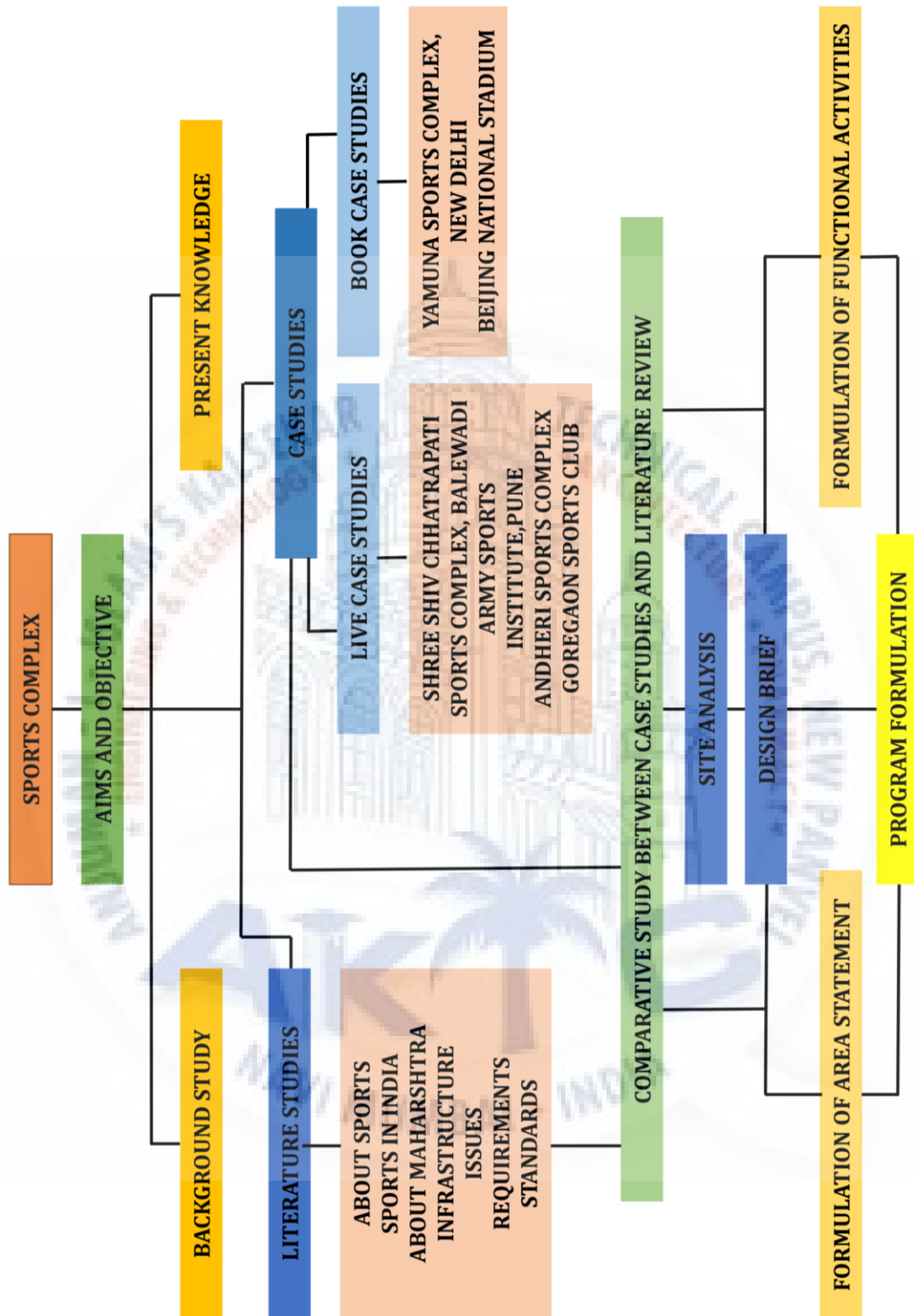


Fig.9 (Research Process Chart)

3.8. STRATEGIES

- Gaining an understanding of the spatial aspects and body measurements related to sports.
- Fostering enthusiasm and nurturing the interest of young individuals in sports.
- Establishing a structured framework for reviving prominent sports that have been overlooked.
- Offering guidance and education through experienced athletes from previous generations.
- Making sports accessible to all by creating inclusive environments for everyone to participate in and enjoy the sporting experience.



4. LITERATURE REVIEW 1L:

4.1. Research article: Sports sector in India: Issues and challenges – Explained, Pointwise

Kunal Khureja

Abstract:

This research paper looks into the progress and challenges of sports in India. It notes that India has improved in international sports due to government and private support. The paper also mentions the benefits of sports, such as creating jobs, promoting health, and uniting the nation. However, it points out issues like lack of money, sports facilities, social attitudes, and cricket's dominance. The paper mentions programs like Khelo India and the Target Olympic Podium Scheme. It suggests more funding, job opportunities, fairness in selecting athletes, support from parents and schools, diverse sports leagues, and a focus on developing sports experts. In the end, it stresses the need for a supportive environment for Indian athletes to achieve the goal of "Sports for All."

Keywords:

Indian sports, Olympics, government support, private sector involvement, benefits, challenges, infrastructure.

Inference:

This research paper comprehensively examines the state of Indian sports, highlighting both the positive developments and persisting challenges. It emphasizes the transformative power of sports in India, offering alternative career opportunities, health promotion, harnessing the youth demographic, and addressing societal issues. The paper underscores the role of government initiatives and private sector participation in enhancing sports infrastructure and athlete support. It also identifies the hurdles faced by athletes, including inadequate funding, insufficient infrastructure, societal priorities, performance pressure, governance issues, and the dominance of cricket. Through concrete suggestions, the research paper provides a roadmap to strengthen the sports sector in India, emphasizing the importance of equitable funding, job creation, transparency, education, diversified leagues, and expertise development.

Conclusion:

India's sports sector has made remarkable progress, with a notable performance at the Tokyo Olympics 2020, supported by government initiatives and private sector involvement. However, the sector faces significant challenges, including funding gaps, infrastructure limitations, societal attitudes, performance pressure, governance issues, and cricket's overshadowing influence. To further enhance the sports landscape, it is imperative to increase funding, promote sports as a viable career, ensure transparency in athlete selection, garner support from parents and educational institutions, diversify sporting events, and invest in sports sciences and medicine expertise. An enabling environment for Indian athletes is crucial to turn the dream of "Sports for All" into a reality, fostering national pride and unity while unlocking the sector's full potential.

4.2. A Status Study of Sports Facilities Management Available in Indian Educational Institutions

Abstract:

The aim of this research was to assess the state of sports facilities within Indian educational institutions. The study encompassed research conducted from 1980 to 2018, with an electronic search conducted on Google Scholar, Scopus, and Shodhganga to comprehensively identify all relevant studies. A total of 12 studies meeting the specified criteria were carefully reviewed. The findings indicated a deficiency of sports facilities in Indian institutions, and those institutions that did have such facilities often failed to adequately maintain them.

Keywords: Sports Facilities, Indian Institutions, Maintenance, Management.

Inference:

Poor Olympic Performance: India's performance in the Olympics has not been satisfactory, mainly due to inadequate support for sports at the school and college levels.

Lack of Facilities: The lack of proper sports facilities and equipment in educational institutions is a major hindrance to the development of a sports culture.

Wide Range of Sports: It's not just cricket that's popular in India. Sports like football, hockey, badminton, and kabaddi have gained popularity among the youth.

Importance of Facilities: Good sports facilities and equipment are crucial for sports excellence. They serve as the training grounds and laboratories for athletes.

Conclusion:

- India's underwhelming performance in the Olympics can be attributed to the lack of early support for sports development and inadequate facilities in educational institutions.
- The UNESCO resolution underscores the global concern about increasing physical inactivity and the need for compulsory physical education and sports.
- To nurture talent and excel in sports, it's essential to provide institutions with proper facilities and equipment, ensuring athletes have the necessary resources to train and compete effectively.

4.3. Importance of infrastructure and facilities in Sports

Vaibhav Somani

Abstract:

This research emphasizes the pride in Indian athletes' success at the Commonwealth Games and the positive impact of sports on physical and mental health, self-esteem, and belief. It highlights the need for improved sports infrastructure, particularly in smaller towns and villages. The passage also underscores the lack of attention to sports other than cricket and advocates for promoting physical literacy among Indian youth. Anurag Thakur's role in advancing these goals is noted. In conclusion, it calls for comprehensive efforts to develop the sports industry in India, recognizing all sports nationally and ensuring essential facilities for athletes' success.

Keywords:

Indian athletes, Absence of proper infrastructure, Physical literacy, Lack of sports facilities, Physical and mental health, Lack of attention to other sports

Inference:

The research highlights the pride associated with Indian athletes winning medals at the Commonwealth Games (CWG) and discusses the positive impact of sports on individuals and society. It emphasizes the need for better sports infrastructure in India and mentions the discrepancy in funding and facilities compared to other countries like China. It also points out the lack of attention given to sports other than cricket and the importance of promoting physical literacy among Indian youth. Anurag Thakur, who holds dual positions as the Minister for Sports and Youth Affairs and the Minister for Information and Broadcasting, stresses the importance of improving physical literacy.

Conclusion:

The research underscores the significance of sports in India, not only for physical and mental health but also for fostering self-esteem and belief. It highlights the challenges related to inadequate sports infrastructure, particularly in towns and villages, and the need for government intervention to provide better facilities and promote a culture of sports. The passage also suggests that schools should play a role in promoting sports and competitions to encourage participation. Overall, it calls for a comprehensive approach to developing the sports industry in India, acknowledging all sports on a national level, and providing essential facilities for athletes to succeed.

4.4. A Study of Emerging Challenges in Physical Education and Sports in Kokan Region of Maharashtra

Patil Sanjay Sadashiv

Abstract:

Physical education teachers in various secondary schools face several challenges related to sports. Some of the key issues include difficulties in teaching advanced sports due to the lack of basic sports facilities in these schools. To address these challenges in the Kokan region of Maharashtra, a study was conducted with students, sports teachers, and headmasters as participants.

The study involved 400 students, 20 sports teachers, and 20 headmasters. The findings from the sports teachers' data collection provide insights into the challenges faced in secondary school sports. The research aimed to understand the problems and the level of awareness among teachers regarding sports activities in secondary schools.

Keywords:

Emerging challenges , physical education , Kokan region etc.

Inference:

Importance of Physical Education: The paper emphasizes that physical education is as vital as intellectual or moral education in a child's development. It aims to develop the physical body, improve fitness, enhance psychomotor skills, and impart knowledge about sports, exercise, and health. It also plays a role in shaping emotional and social behavior.

Lack of Professional Training: The research paper highlights a misconception that physical education can be taught by anyone and does not require professional training. This has contributed to weaknesses in the physical education system.

Goals of Physical Education: The primary goal of physical education is to equip students with the knowledge, skills, values, and motivation to lead a healthy lifestyle throughout their lives, regardless of their physical abilities. It encompasses a wide range of activities, from fitness exercises to team sports.

Conclusion:

This research paper underscores the importance of physical education in a child's holistic development and identifies challenges in the field, particularly in the context of Indian sports. It suggests that addressing these challenges and recognizing the significance of physical education within the education system is essential to improve the state of sports and physical fitness in the country. Additionally, it highlights the need for better professional training and more comprehensive policies to enhance physical education programs.

5. LITERATURE REVIEW 2 -

1. SHREE SHIV CHHATRAPATI SPORTS COMPLEX, BALEWADI, PUNE

Intent:

To understand how different sports can be played at a sports facility, how to manage the facility, including its various supporting areas, and how to organize the spaces for different sports so they work well together.



Fig.10 (3D View of Complex)

Introduction:

Shri Shiv Chhatrapati Sports Complex, Balewadi, Pune is an Indian sports complex. This complex is situated in Balewadi, Pune, about 10-12 km away from Pune downtown and 4-5 km from Blue Ridge and Rajiv Gandhi Infotech Park, Hinjewadi.

This complex was the venue for the 2008 Commonwealth Youth Games. It was built in 1994 for the National Games 1994, which were hosted by Pune. Currently the 2008 Commonwealth Youth Games were hosted here.

History:

This facility was constructed in 1994 in preparation for the national games, which were held in Pune that year. This location played host in 2008 to the commonwealth youth games. In 2008, this venue played host to the world junior table tennis circuit with great success. This location played host in 2009 to the five men's junior world championship. Brazil came out on top and won. In addition to this, the city played host in 2009 to the Fifa Asia under-16 championship for women.

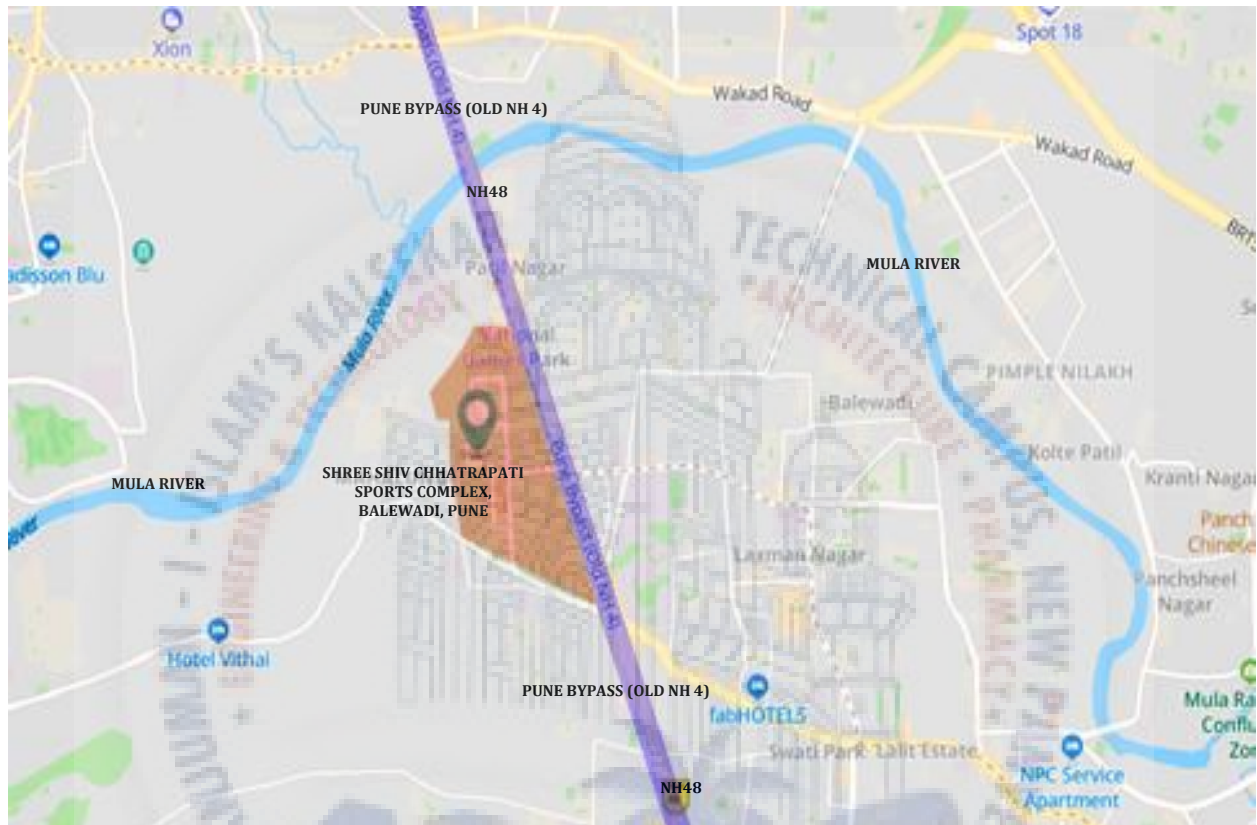
Site location:

Fig.11 (Location Map)



Fig.12 (3D View of Warm-up Track and Stadium)

General information:

Site area	150 acres
Address	National Games Park, Balewadi, Pune, Maharashtra 411045
Opened	1995
Capacity	22,000
Owner	Government of India
Teams	Fc Pune, Bharat fc
Architect	Shashi Prabhu & Associates
Operator	Indian Olympic Association

Design challenge:

The most difficult aspect of the design of the sports complex was attempting to combine all of the arenas and open spaces in such manner that it would be able to accommodate spectators from all over the world.

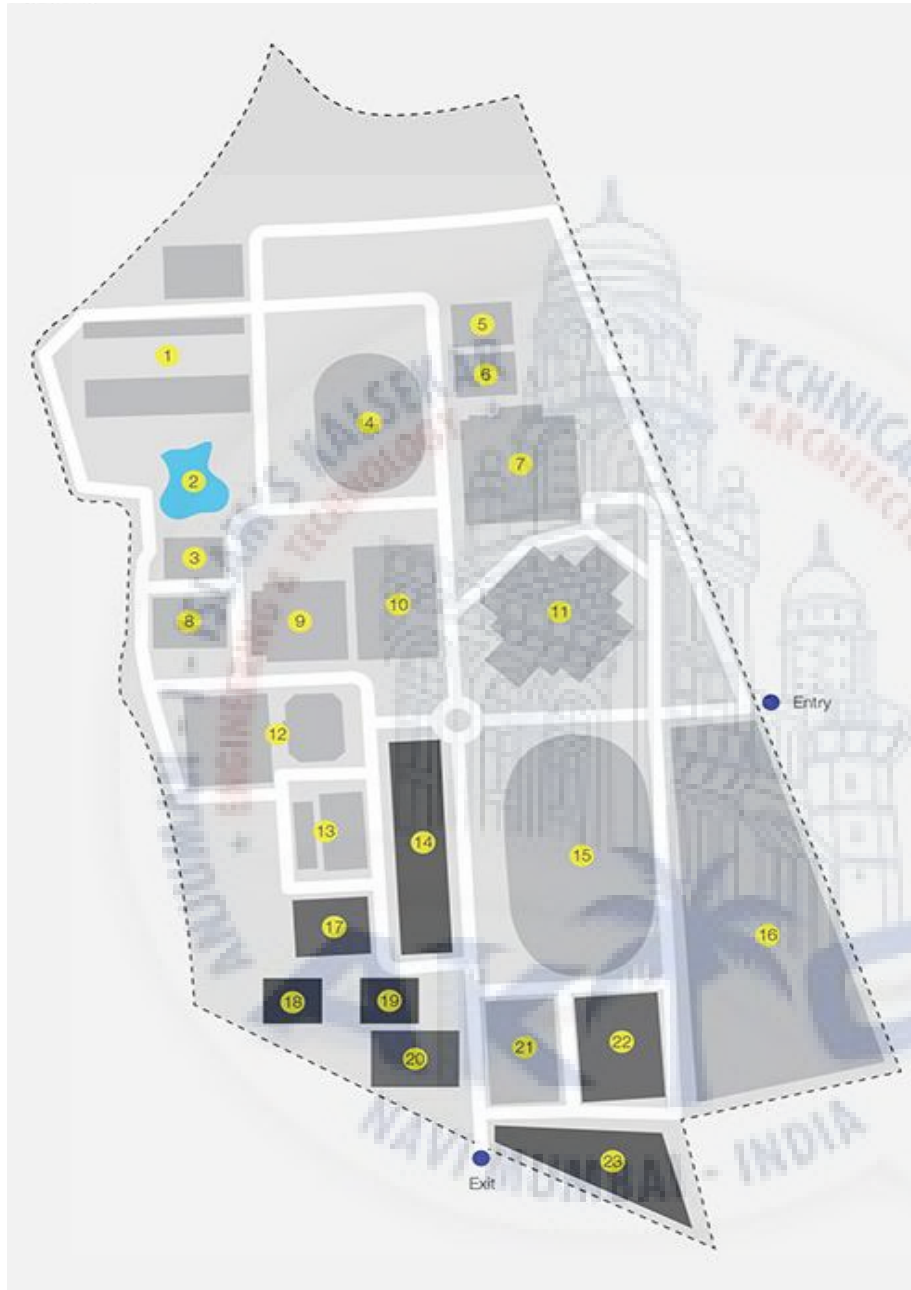
Site approach:

As the map on the below indicates , the facility can be accessible from a number of different locations, thanks to its handy placement in the centre of Pune. It takes 17.8 kms to go to the facility from Pune station, but it takes 57 kms to get to the airport in Pune. The journey will take you 45 mins to go from the sports facility to the station, and from the station it will take you 57 mins to get to the airport.



Fig.13 (Proximity Chart)

Inside balewadi stadium:



1. Capital For Glory
2. Lake
3. Fitness Centre
4. Velodrome
5. Kho-kho Ground
6. Kabaddi Ground
7. Swimming Pools
8. Boxing Stadium
9. Wrestling
10. Hockey
11. Badminton Court
12. Tennis Court
13. Table Tennis Stadium
14. Parking
15. Football Stadium
16. Warm-up Track
17. Sports Science Center
18. Girls Hosel
19. Boys Hostel
20. Circle Of Youth
21. Weighing Hall
22. Admin And Cafeteria
23. Parking

Fig.14 (Site Plan)

Sector:

Red Sector

Green Sector

Yellow Sector

Orange Sector

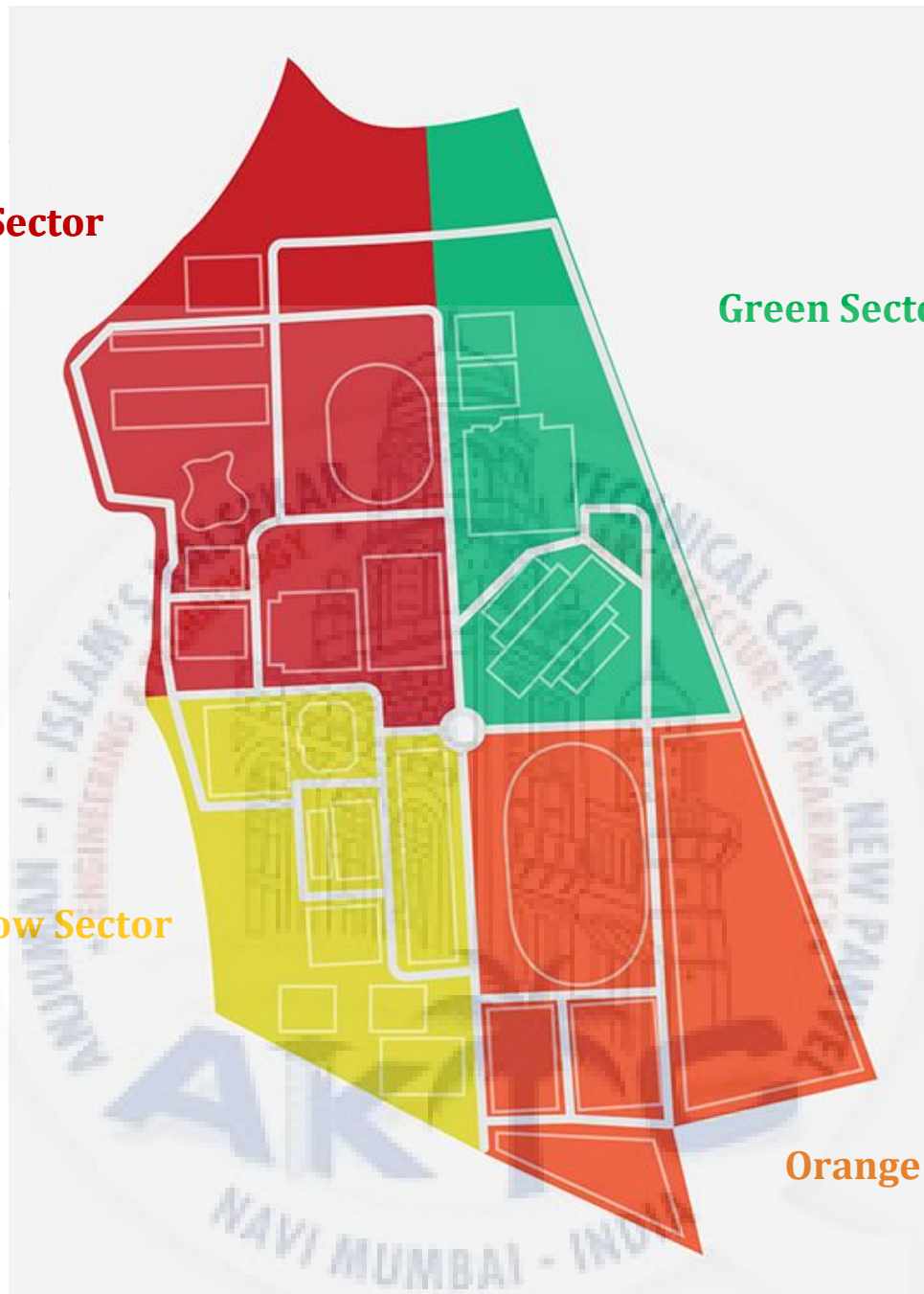


Fig.15

The stadium has been divided into four sections. This grouping is done by dividing the area into four parts with the Chhatrapati Shivaji Maharaj circle being the central point.

The color coding helps the users to easily remember and recall the locations of their destination.

Circulation of Outdoor:

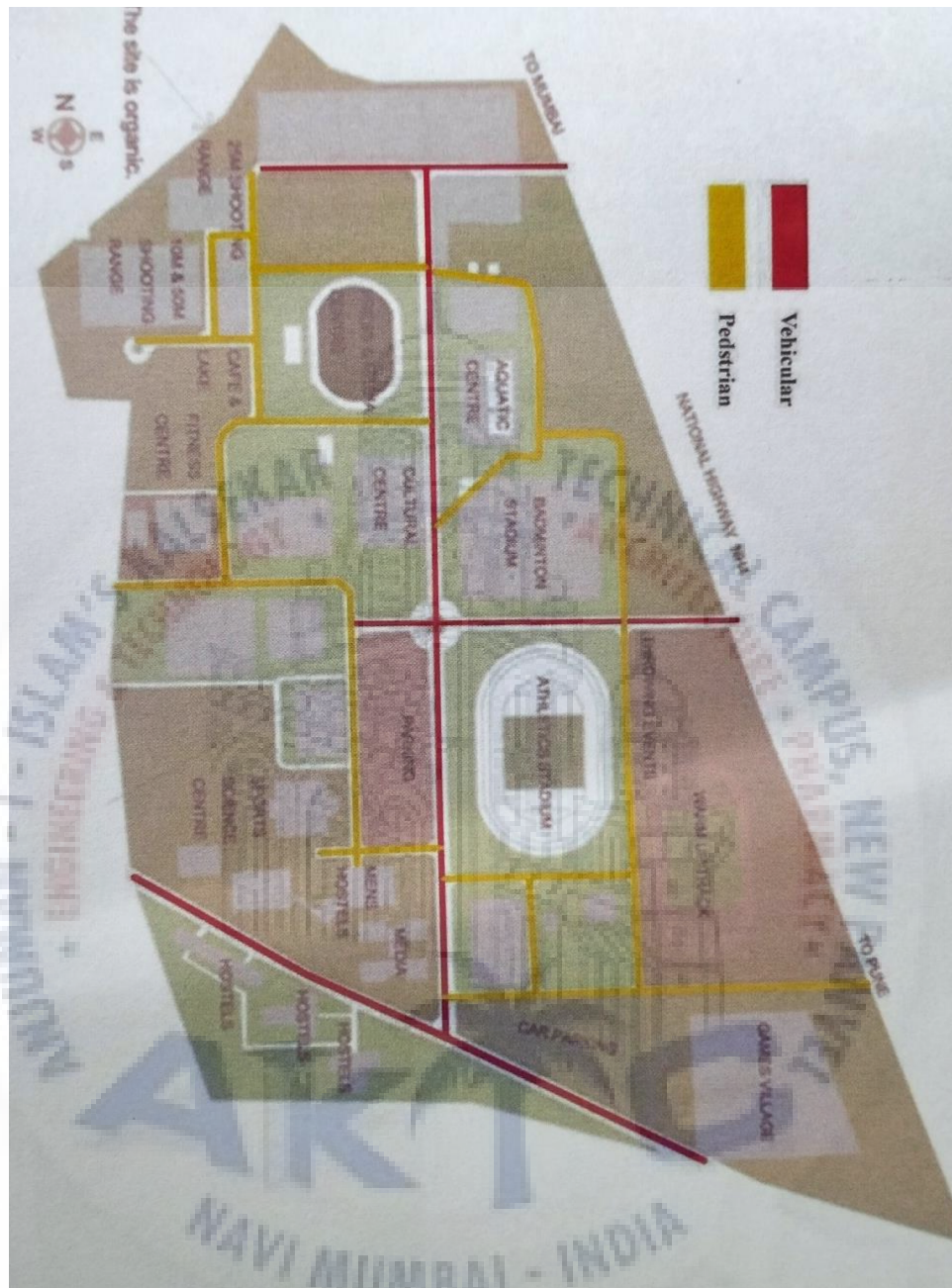


Fig.16 (Circulation Layout)

A grid layout has been created for the mobility and circulation on the property. The NH-4 serves as the approach to the complex's entrance. There are two entry gates, however only one exit gate is available. Another entrance may be found on the east side of the building. The many types of movement are shown by the red lines, while the movement of pedestrians is indicated by the yellow lines. There is not a separate entry for delivery trucks as this location. The movement is straight forward and uncomplicated as a result of the grid pattern that it follows; yet, there are no diagonal interlinkages. Because of this, finding the quickest route to any location is difficult

SPORTS FACILITIES

OURDOOR:

Surface of the ourdoor games is made of concrete. While it was a prime venue for the 3rd Nationals Games in the year 1993-94 it has never been a place for any major events thereafter, and was left unused.

- **ATHLETIC STADIUM**

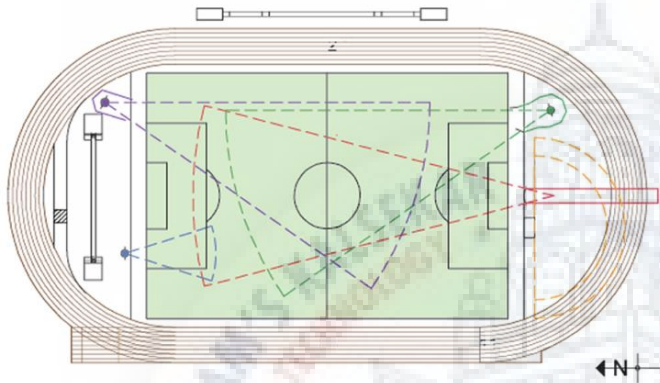


Fig. 17



Fig. 18

The athletics stadium can accommodate around 11,000 people at one time, is illuminated by floodlights, and has an eight-lane track.

- **HOCKEY FIELD**

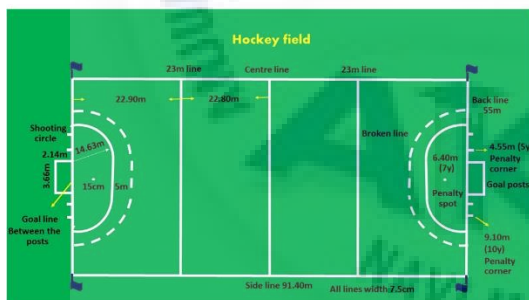


Fig. 19

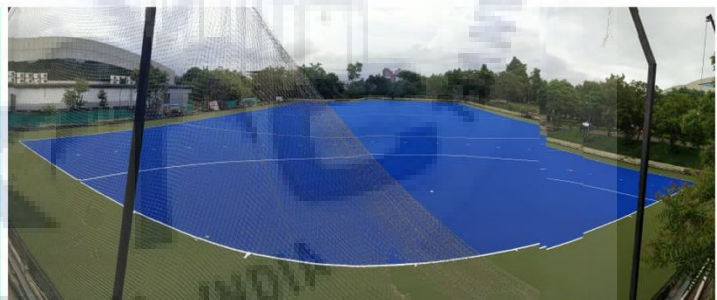


Fig. 20

The hockey field isn't used much and lacks seating. This field is now a guest seating area.

Indoor:

- **BOXING ARENA**



Fig. 21



Fig. 22

Boxing venue features 3 rings, 5 warm-up rings, and 3500 seats. This air-conditioned hall contains changing rooms.

- **TENNIS COURT**

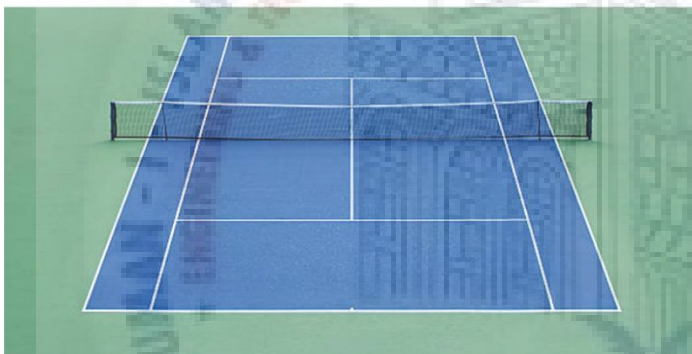


Fig. 23



Fig. 24

The 1500 person hall. For competitive tables and four warm up tables. This air conditioned hall contains changing rooms,. VIP seating and lounges.

- **BADMINTON COURT**



Fig. 25



Fig. 26

The badminton arena features 6 courts with 1200 seatings. This air-conditioned hall contains changing rooms.

• **TABLE TENNIS**

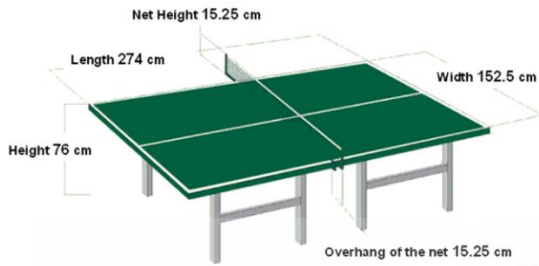


Fig. 27



Fig. 28

The 1500-person hall. Four competitive tables and four warm-up tables. This air-conditioned hall contains changing rooms, VIP seating and lounges.

• **SHOOTING RANGE**

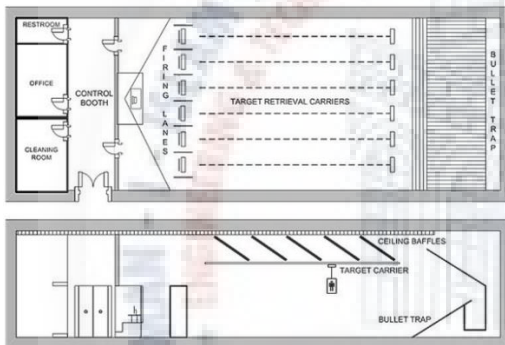


Fig. 29



Fig. 30

The facility has 15 different shooting ranges and offers space for 500 people total. ISSF guidelines, which govern the world championship, were followed in the construction of the ranges. There are three ranges available: 50 m, 25 m, and 10 m.

• **WRESTLING**

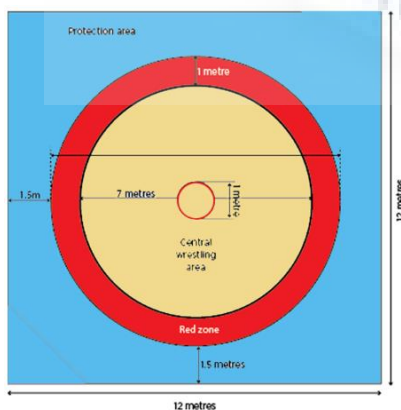


Fig. 31



Fig. 32

The Wrestling Hall has four rings with a seating capacity of 4,400 people. This has seating and lounges for VIPs. This also has change room for players. This is an air conditioned hall.

- **WEIGHTLIFTING**



Fig. 33

This hall accommodates 3000. Air-conditioned, with one competition podium and 10 warm-up platforms. VIPs have seating and lounges. Competitors have a locker room.

- **MAIN STADIUM**



Fig. 34

The Athletic stadium has a seating capacity of roughly 11,000 people at a time, Flood lights and an 8 lane track.

- **STRUCTURAL SYSTEM USED:**



Fig. 35

A steel structural system is opted for the roofing design of the seating area of the stadium. Steel is strong both in tension and compression and hence is used for long span structures.

- **MATERIAL USED**

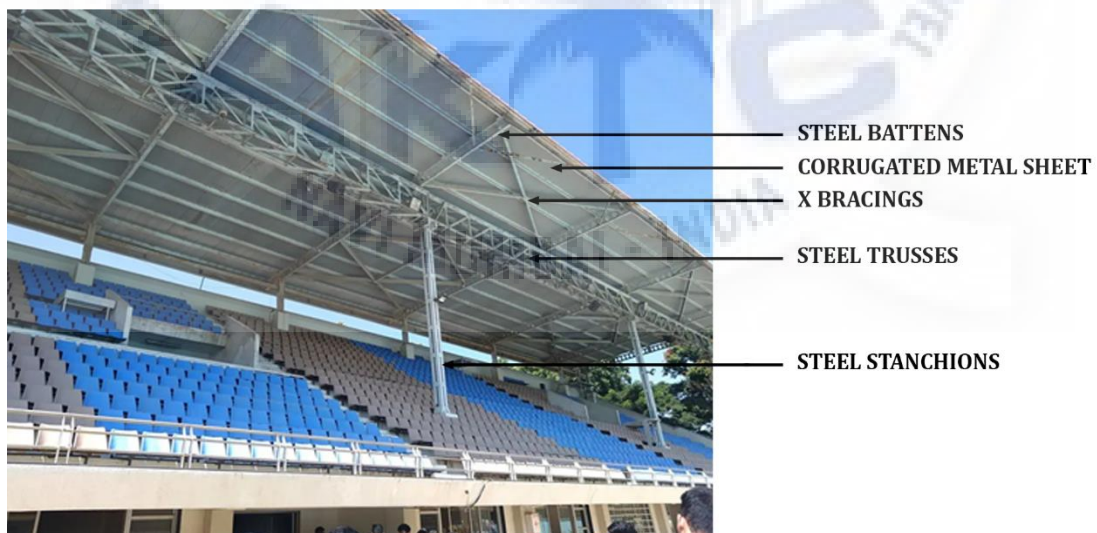


Fig. 36

SUPPORT SERVICES:

1. Residential areas include 13 apartments which lies separate corner. It has all the facilities.
2. Hostel facilities are separate for men and women. The blocks are near to each other and lies near to residential colony.
3. Separate staff quarter is provided.
4. There is a restaurant inside the complex. Its capacity is around 300 people
5. The services like HVAC plant room, electrical area in separate zone.
6. The gymnasium and fitness centre is near the Hostel complex It has all the facilities of modern equipments..

AREA PROGRAMMING AND DESIGN CAPACITY

Area	No. of areas	11,000
Main stadium	8 lane track	3500
Aquatic Centre	50 x 25	3800
Badminton hall	6 competition courts 4 warm-up courts	4000
Basketball	5 competition courts 4 warm-up courts	3500
Boxing arena	3 competition rings 5 warm up rings	1000
Shooting range	15 shooting range	1500
Table tennis	4 competition 4 warm up	1500
Lawn tennis	1 centre court 4 competition courts 6 warm up courts	4200
Weightlifting	1 competition arena 10 warm-up arena	3000
Wrestling	4 competition rings 6 warm up rings	4400

OBSERVATION:➤ **Pros**

- The planning of spaces and its outside environment is done in significant way.
- The traffic movement are well designed.
- The zoning between sports arena and residential areas are done at far distance making the area noise free.
- The use of natural ventilation is used in better way.
- All grounds are oriented in N-S direction.

➤ **Cons.**

- The stadiums are not designed according to futuristic re-development.
- It lacks in several modern infrastructure facilities.
- The stadiums lacks architectural aesthetics and looks outdated.
- The number of visitors increases during the international events which become over crowded to control.
- The complex lacks cricket ground.
- The main administrative building is attached to the athletic stadium.
- No recreational spaces for students staying in hostels

2. ARMY SPORTS INSTITUTE, PUNE

INTENT

To have an understanding of the many auxiliary spaces that are necessary for sports activities and to acquire an understanding of the ways in which academic pursuits may be included into a sporting routine.

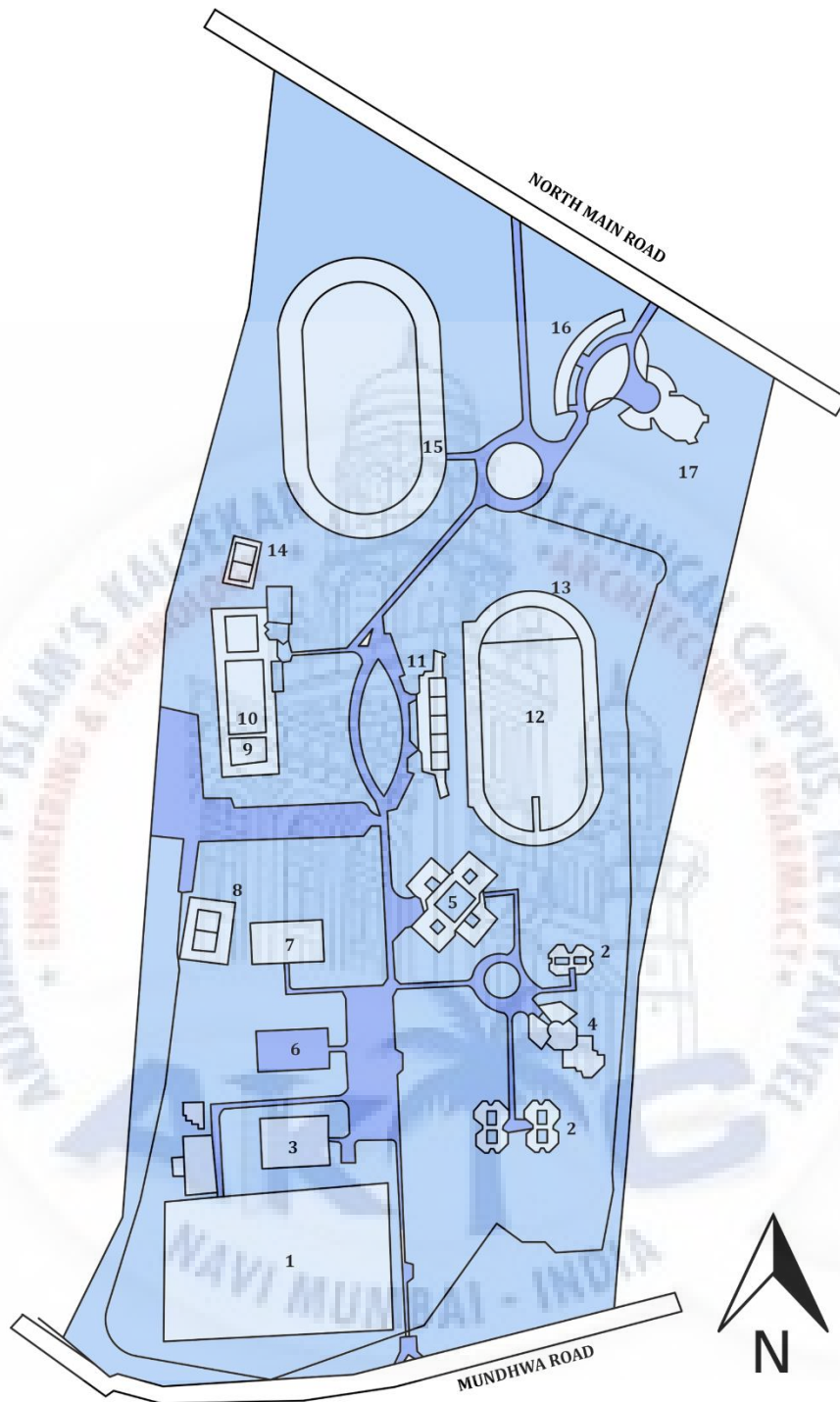
INTRODUCTION AND LOCATION



Fig. 37

Located in the Koregaon Park neighbourhood of Pune in the district of Pune. You may reach there in about 10 minutes from the Pune International Airport, which is just around 8 kilometres away. It's not far to go to Satara, Mumbai, or Pune, Pune is home to India's first sports academy, which aims to transform the country's athletic landscape.

OVERALL ZONING AND PLANNING



- | | |
|-----------------------------------|---------------------------------------|
| 1. ARCHERY OUTDOOR TRAINING | 10. OLYMPIC SIZE SWIMMING POOL |
| 2. STUDENT HOSTEL | 11. ATHLETIC INDOOR TRAINING |
| 3. WEIGHTLIFTING HALL | 12. HURDLE AND THROWING TRAINING AREA |
| 4. SPORTS MESS | 13. 400M SYNTHETIC TRACK |
| 5. GYM, SPORTS SCIENCE CENTRE ETC | 14. BASKETBALL COURT |
| 6. BOXING HAL | 15. CYCLING TRACK |
| 7. WRESTLIN GAL | 16. SCHOOL BUILDING |
| 8. BASKETBALL CORT | 17. RECREATIONAL AREA |
| 9. DIVING AREA | |

Fig. 38

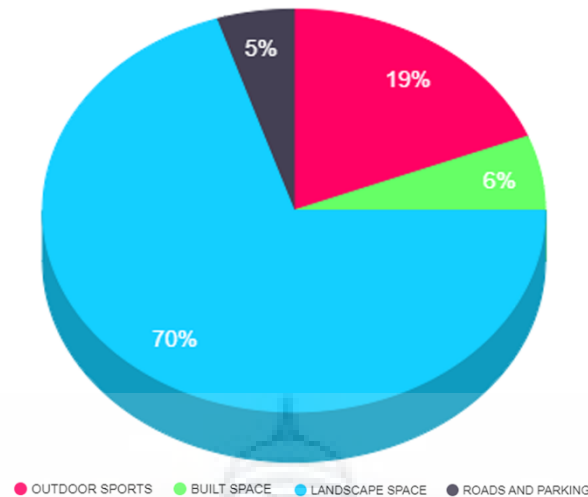


Fig. 39

The outside of the facility is accessible by one of three primary doors that go straight into the main arena. When performing various kinds of sports in a properly segregated environment, distinct areas or places are designated for each sport. A separate location, apart from the athletic facilities, is designated for the hostel building to be built.



Fig. 40

ACADEMIC WORKING STRUCTURE

After passing a medical exam and demonstrating their athletic prowess, talented young male athletes (referred to as "boys") have the opportunity to participate in the programme.

- 1) Recruit in the boys' sports cadet corps.
 - Age: between 10 and 16 years old.
 - The sixth through tenth grades of schooling.
 - Medically fit.
 - Winners of medals in the various asi sports.
 - Superb driving ability.

2) Outstanding civilians sport men.

- 16-24 year olds.
- Completed the 10th year of schooling.
- Inducted as a direct havildar/junior subedar.
- Winners of medals in the various asi sports.
- Accomplishment in sport - representing your country abroad
-

3) Science of sporting events

Asi's sports science faculty helps athletes and coaches improve their game by using cutting-edge techniques from the field of sports science.

- Assessment and enhancement of human performance.
 - Moving all of the necessary tools for treating both short- and long-term injuries on the road.
 - Research facility for human betterment.
 - Medical center's physiotherapy division.
-
- Psychology lab.
 - Relaxation room.
 - Hydrotherapy facility.
 - Hypoxic chamber.
 - Cameras capable of analysing motion in all three dimensions.
 - The detention centre only has space for 10 inmates.
 - Compare and contrast a sauna with a stream.
 - The Division of Food, Nutrition, and Dietetics.
 - Rehabilitation gym.
 - Psychological, biomechanical assessment.
 - A multimedia area, a hot bath, an ice machine, and a wall bar are all available.

3. ANDHERI SPORTS COMPLEX

INTENT

To get familiar with the activities offered at a sports complex as well as the layout of the building.

INTRODUCTION

The Andheri Sports Complex, also known as the Shahaji Raje Krida Sankul, is a versatile building in Andheri West, Mumbai. It was constructed in 1988 for schools lacking proper sports facilities, costing Rs. 30 crore. This place hosts national-level sports competitions, including squash, boxing, tennis, and karate. It has a diving pool with different depths and a large Olympic-sized swimming pool. In 2016, it got a makeover, including the addition of the Mumbai Football Arena, a top-notch soccer stadium built according to FIFA standards.



Fig. 41

The Andheri Sports Complex, also recognized as the Shahji Raje Krida Sankul, is a versatile sports facility situated on Veera Desai Road in Andheri West. Constructed in 1988 at a cost of 30 crore rupees, the complex was designed to address the inadequate sports infrastructure in schools for hosting sporting events. This facility serves as a venue for various national-level tournaments, including sports like squash, boxing, tennis, and karate.

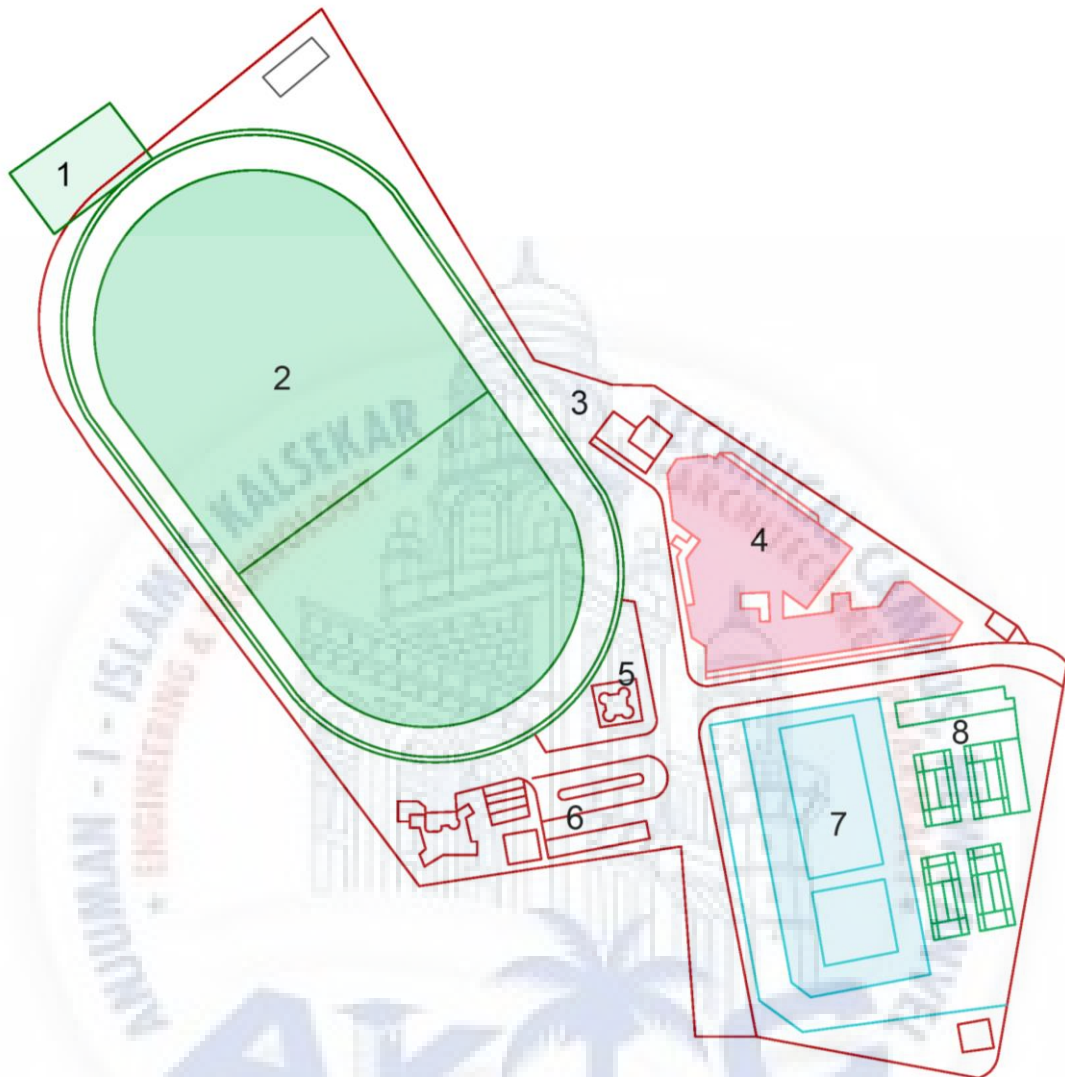
MASTER PLAN

Fig. 42

Legends:

1. Tennis lawn
2. Football arena
3. Substation
4. Indoor sports centre
5. Water tank
6. Parking
7. Swimming pool building
8. Tennis stadium

CIRCULATION



Fig. 43

- Three significant entities situated in close proximity:
- a robust concrete roadway flanked by structures on both sides.

A COMBINATION OF HARDSCAPE AND SOFTSCAPE:

- 1-football arena
- 2-sports training centre
- 3-swimming pool area

SPORTS FACILITIES

- FOOTBALL ARENA



Capacity- 8000
Surface- Natural Grass

Fig. 44

The football arena made as per the FIFA guidelines

DIMENSION:

1. Touch line(length)- 90 to 120m
2. Goal line (width)- 45 to 90m

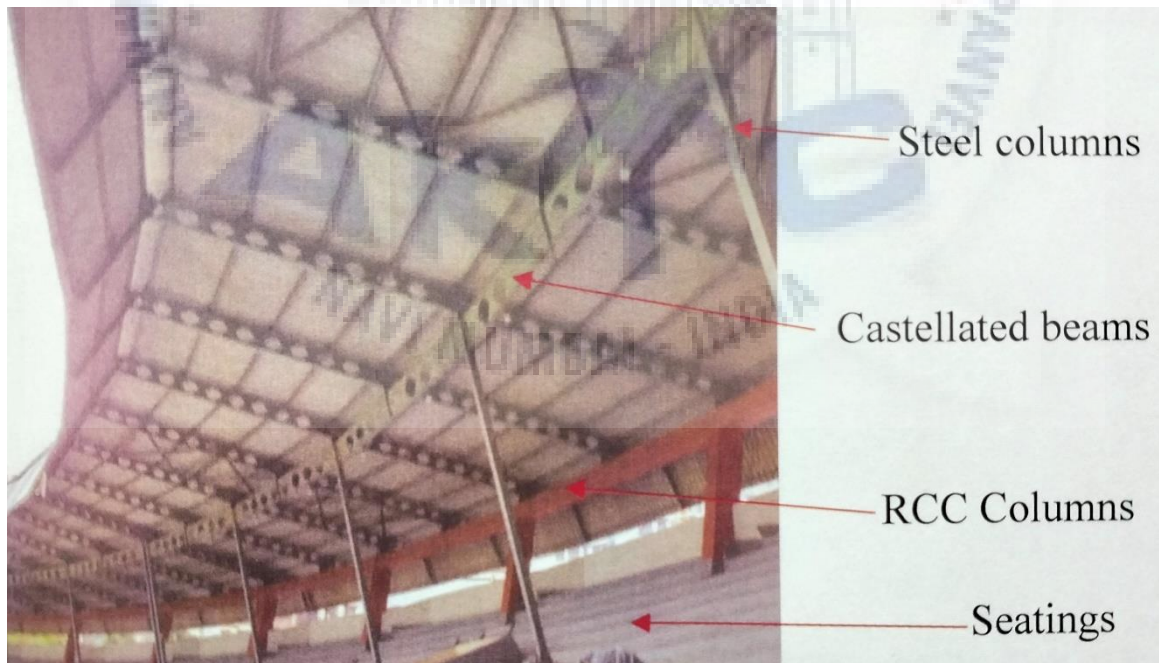


Fig. 44

- **SPORTS ARENA CENTER**

- Sports accommodation in the center
- Badminton
- Gym
- Gymnastics
- Squash
- Table tennis
- Karate
- Yoga
- skating

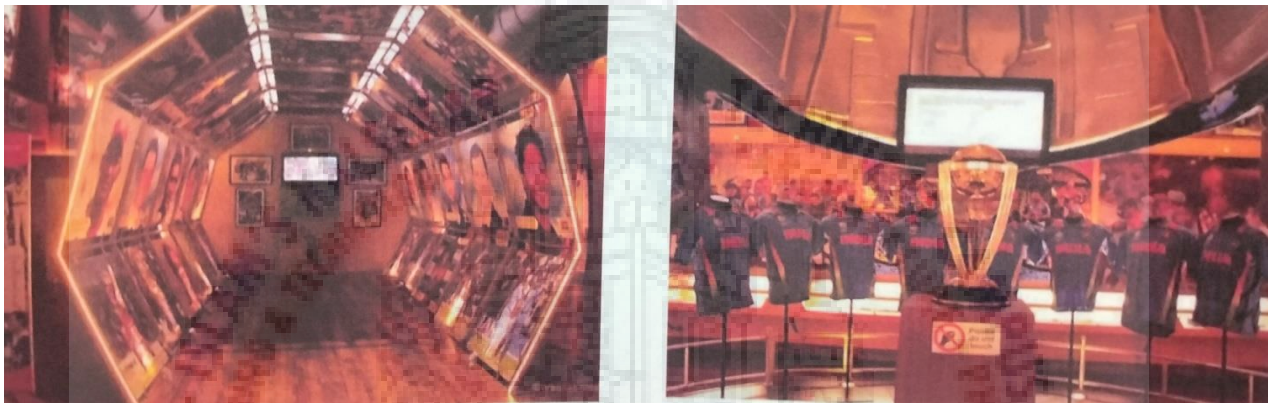


Fig. 45

BADMINTON

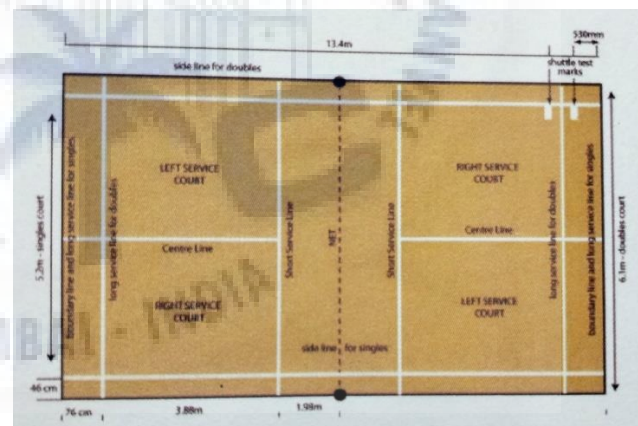


Fig. 46

The authorized ceiling height for major tournaments should measure 39 feet above the court floor. Any beams or lighting fixtures should be positioned above this specified height to avoid interfering with the gameplay. The ceilings should be painted in a dark color.

KARATE

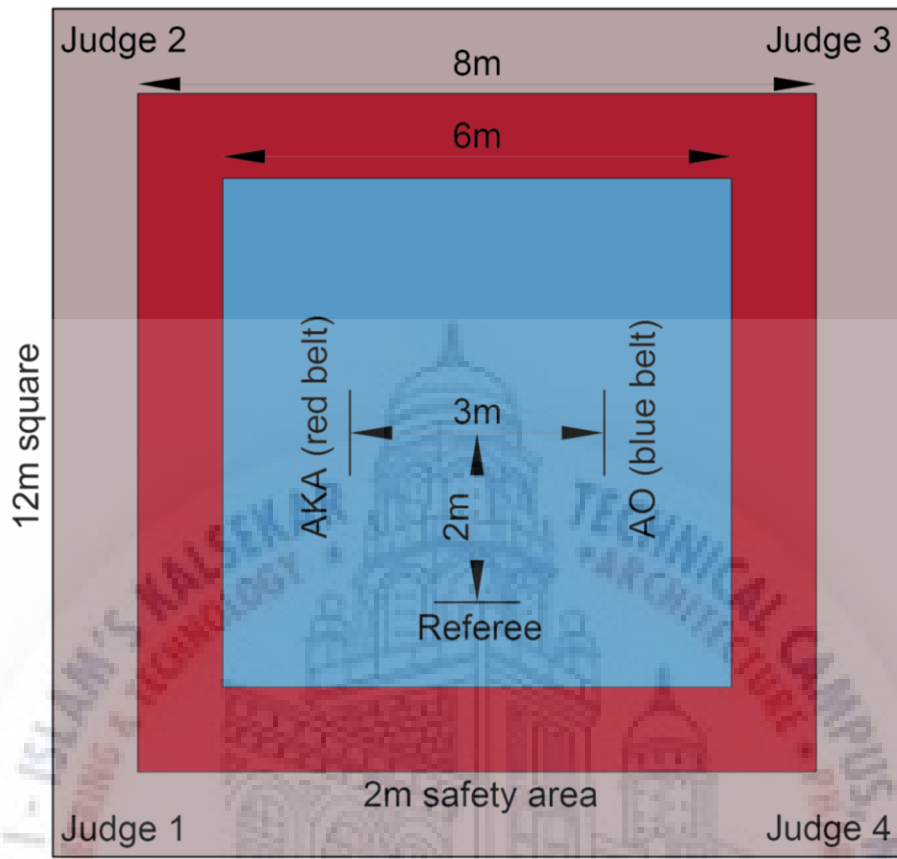


Fig. 47

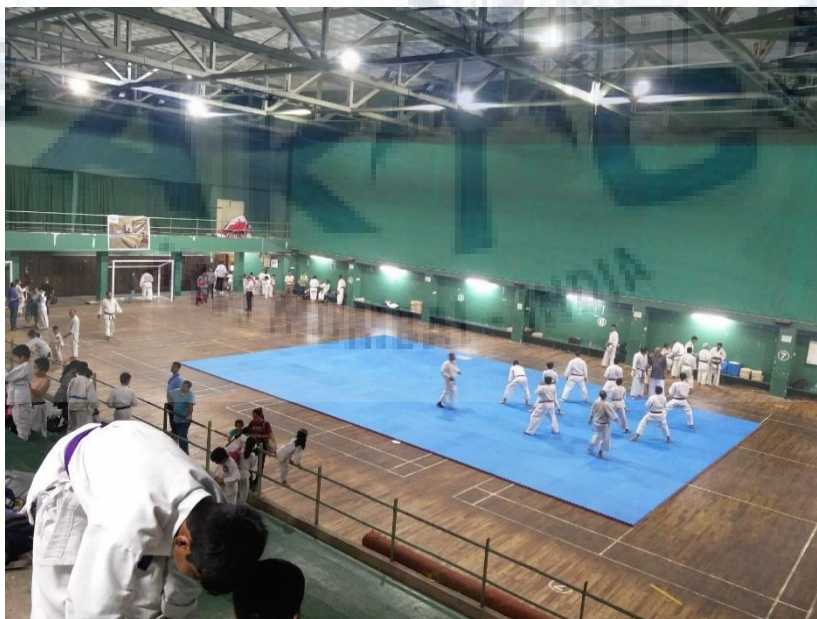
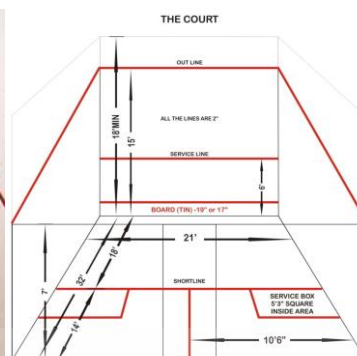


Fig. 48

SQUASH



- Wooden flooring

Fig. 49

TABLE TENNIS

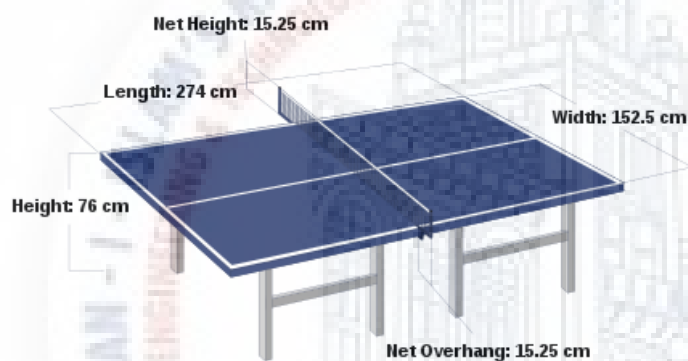


Fig. 50

It is feasible to engage in the game with less than 5 feet of free space on both ends of the table and 3 feet on each side.

In case the players are highly skilled or inclined to play more aggressively, they might prefer to position themselves further away from the table.

LAWN TENNIS

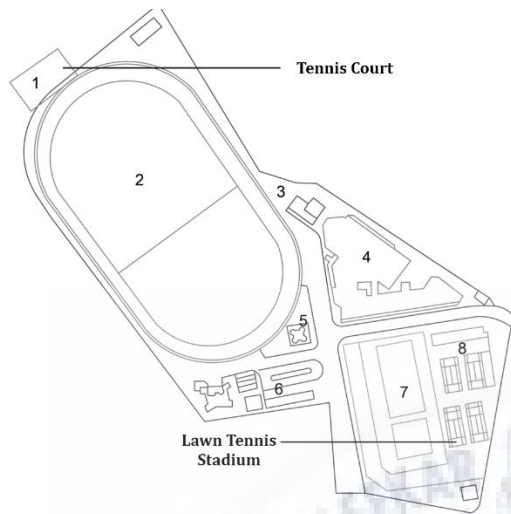


Fig. 51

Lawn tennis stadium behind the swimming pool

SWIMMING POOL

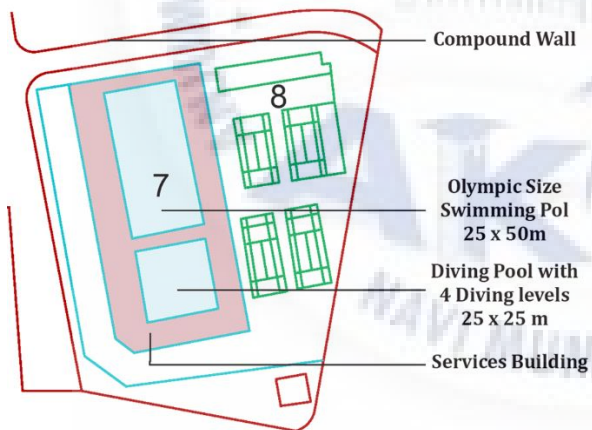


Fig. 52

4. GOREGAON SPORTS CLUB

Intent

To gain a comprehensive understanding of the supplementary components necessary for engaging in sports and to explore how academic endeavors can be seamlessly integrated into an athlete's daily routine.

Introduction

One-sixth of the site is dedicated to outdoor sports like cricket, football, ground tennis, basketball, volleyball, and a playground.

The facility's primary attractions include Olympic-sized swimming and diving pools, in addition to a recreational pool.

Furthermore, it offers multiple versatile indoor game halls for activities like badminton, table tennis, squash, billiards, board games, snooker, chess, carrom, roller skating, and air rifle shooting.

Location



Fig. 53

SPORTS FACILITIES

INDOOR		OUTDOOR	
COURT	BOARD	COURT	BOARD
BADMINTON	POOL	LAWN TENNIS	CRICKET
PISTOL SHOOTING	CARROM	BASKETBALL	
SQUASH	TABLE TENNIS	SKATING	
GYMNASTICS	CHESS		
	CARD		

Fig. 54

FLOOR PLANS

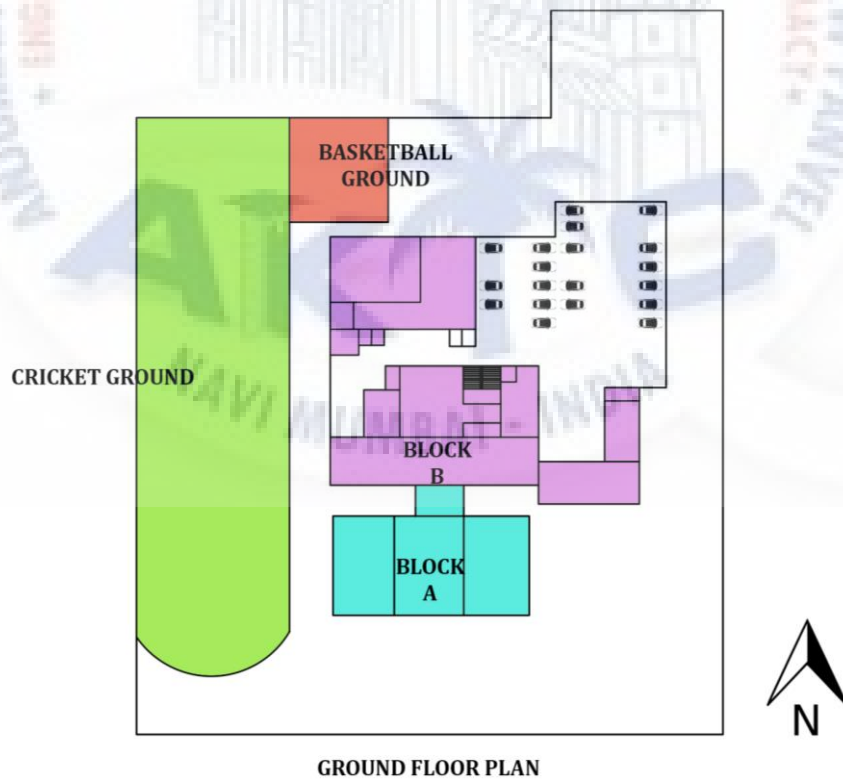


Fig. 55

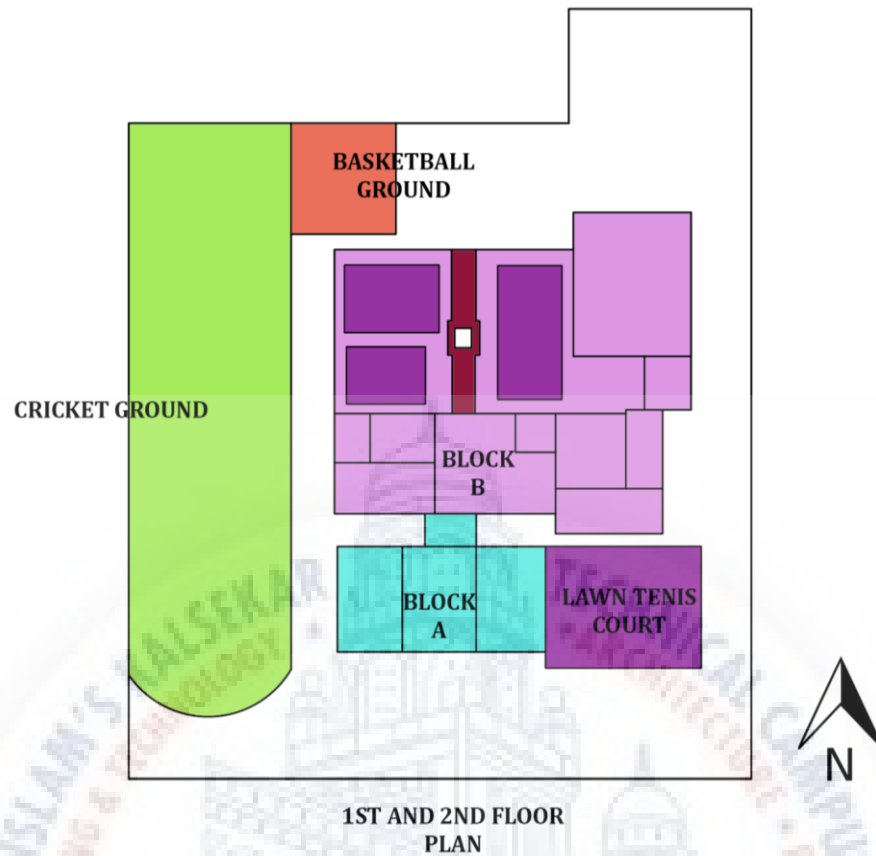


Fig. 56

Block A

- Banquet halls x2
- Library
- Card room
- Restaurants x2
- Rooms x19
- Smoking areas x2

Block B

- Gym
- Swimming pool x3
- Badminton court
- Table tennis court, carom and chess
- Tennis court
- Cafeteria and restaurant
- Snooker hall
- Squash

❖ ONLINE CASE STUDIES

5. YAMUNA SPORTS COMPLEX, NEW DELHI

INTENT

I want to thoroughly study how spaces and traffic flow work in a sports complex to better understand how it affects the user experience. By doing this, I hope to find ways to make sports facilities more efficient and user-friendly, potentially improving their design for future projects.

INTRODUCTION AND LOCATION



Fig. 57

Location: road no. 71a, Surjmal Vihar, New Delhi, India

Area: 66 acre

The complex was started with the help of former Indian Prime Minister Rajiv Gandhi in 1989, and it partially opened for public use in 1994. The official inauguration took place on July 20, 1999. This facility, owned by the Delhi Development Authority (DDA), was used for hosting sports like table tennis. It was also where archery and lawn bowls events were held during the 2010 Commonwealth Games.

OVERALL CIRCULATION, ENTRY, EXITS, ZONING AND PARKING

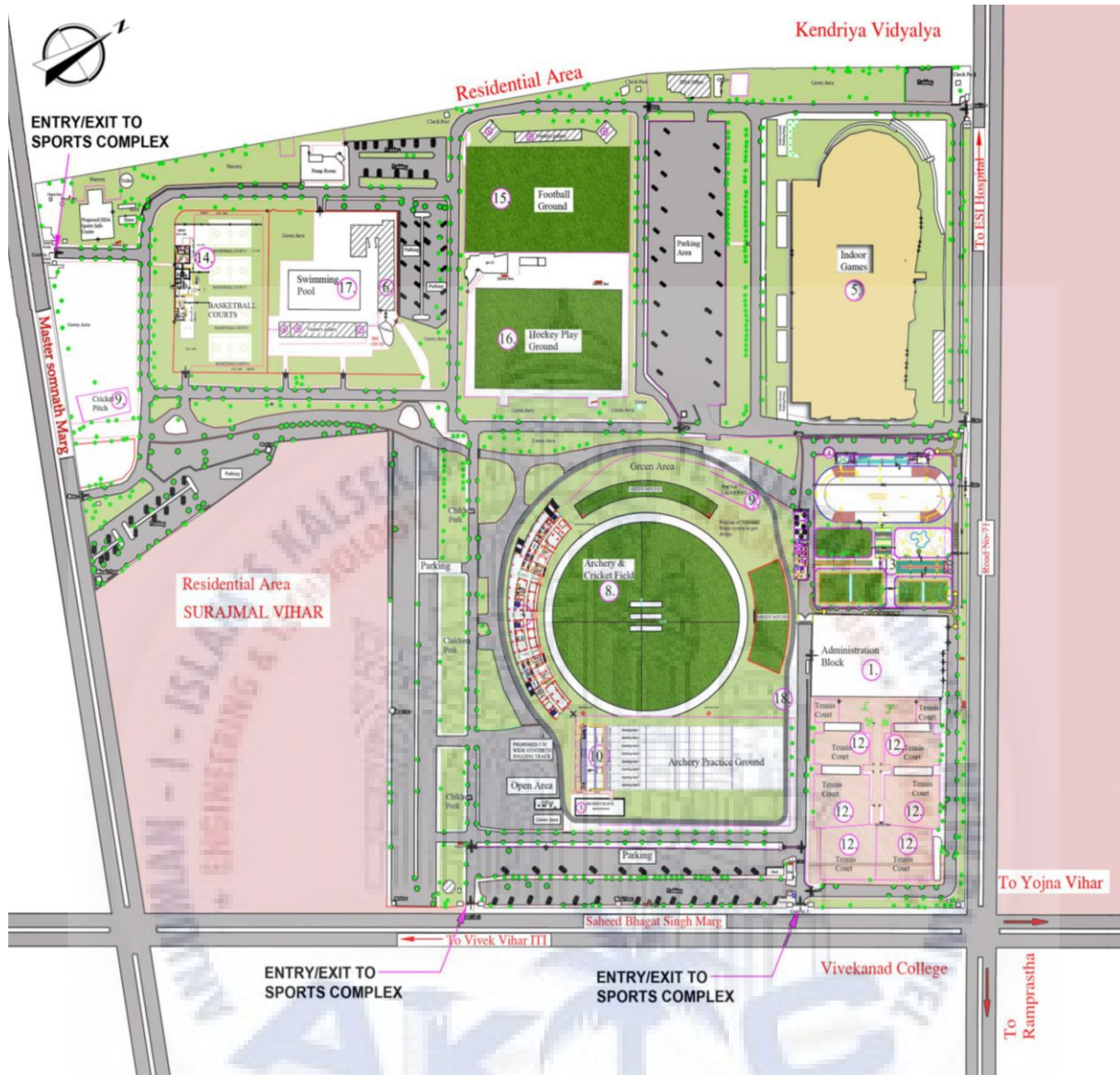


Fig. 58

LEGENDS OF INDOOR PLAY FACILITY

1. ADMINISTRATIVE BUILDING
2. ARCHERY TRAINING VENUE
3. PAVILION BUILDING
4. VISITOR GALLERY KIOSKS
5. INDOOR STADIUM
6. SWIMMING POOL BUILDING
7. LAWN BALL TRAINING VENUE

LEGENDS OF OUTDOOR PLAY FACILITY

8. PROPOSED ACHERY CUM CRICKET GROUND
9. CRICKET PRACTICE PITCH/ COACHING AREA
10. PROPOSED SHED IN ARCHERY PRACTICE GROUND
11. CHILDREN PARK
12. LAWN TENNIS
13. PROPOSED SKATE PARK
14. PROPOSED BASKETBALL ACADEMY
15. FOOTBALL GROUND
16. HOCKEY PLAY FIELD
17. SWIMMING POOL/ TODDLER POOL
18. PROPOSED JOGGING TRACK

SITE PLAN AND ZONING

The site is designed so that you can access it from all four sides. All the buildings are connected to each other. Different sports areas are separated based on whether they're indoors or outdoors, but they're still close to each other.

Each building stands out and offers great views as you enter through the gates. However, once you're inside, it might feel like a complex with many important areas.

There are four main entrances to the complex:

Gate 1- is for the swimming pool.

Gate 2- is for archery and the cricket field.

Gate 3- is the main entrance for the admin building, tennis field, basketball, and other sports.

Gate 4- is for the indoor table tennis and badminton hall.

Gate 5- is an emergency entrance.

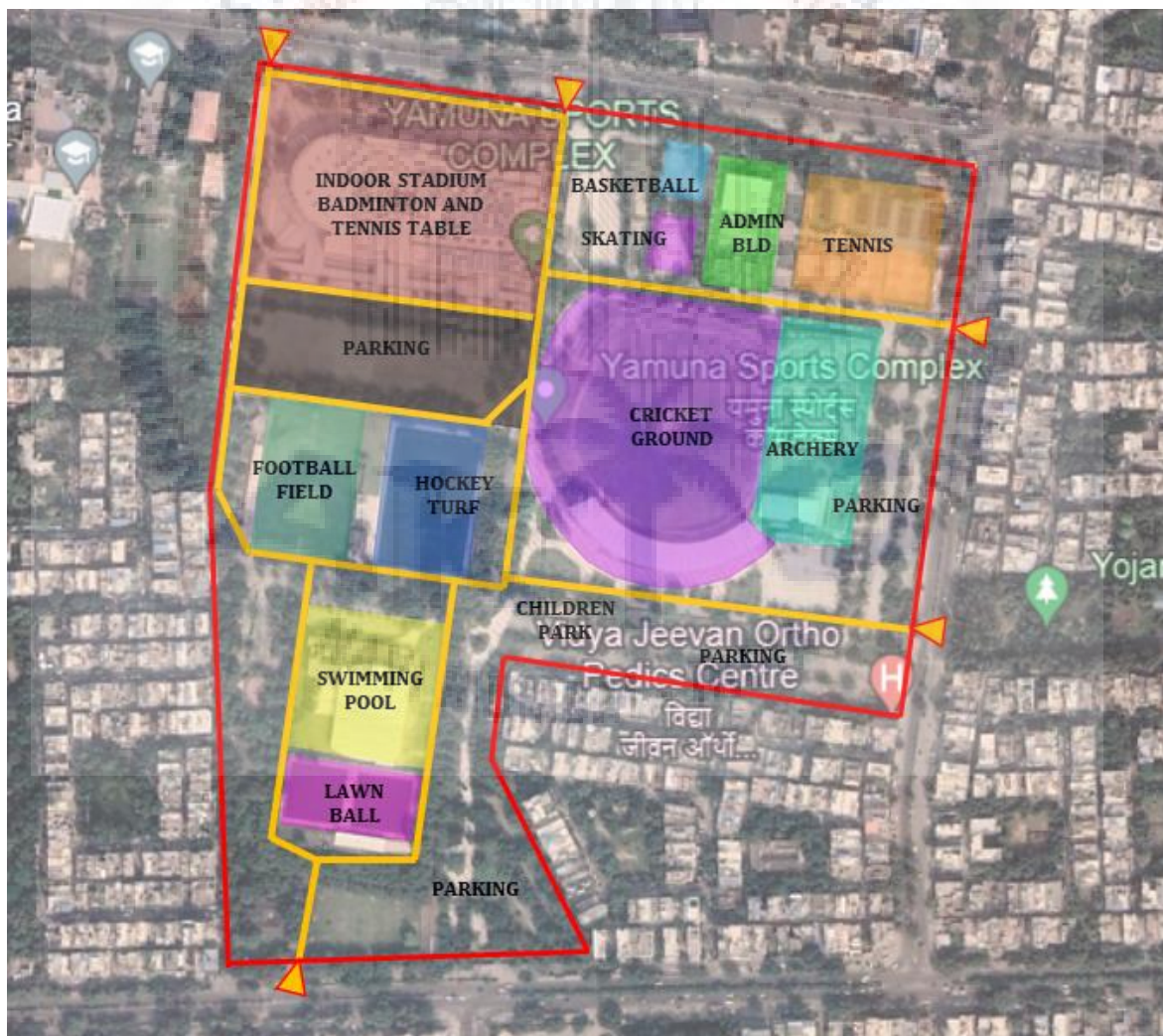


Fig. 59

FACILITIES AVAILABLE

1. Lawn Tennis
2. Badminton
3. Squash
4. Table Tennis
5. Billiards / Snooker / Pool
6. Carrom
7. Chess
8. Basket Ball
9. Volley Ball
10. Taekwondo
11. Fitness Centre
12. Ladies Gym
13. Gymnastics Hall
14. Aerobics
15. Cricket
16. Cricket Practice Pitches
17. Football
18. Hockey
19. Skating
20. Jogging Track
21. Artificial Climbing Wall
22. Olympic size Swimming Pool
23. Toddlers Pool

COACHING AVAILABLE

The coaching facilities are available for members & non-members on nominal payments in the following sports -

1. Tennis (Intermediate, Intemediate, Regular),
2. Skating
3. Billiard
4. Multigym (ladies & gents)
5. Aerobics
6. Football
7. Cricket
8. Taekwondo
9. Gymnastics
10. Swimming
11. Basketball
12. Hockey



Fig. 60

INDOOR STADIUM BLOCK



Fig. 61

Area: 6.5 acres approx. (26000 sq.m.)

It has two show court tables, eight match tables and 10 warm-up tables.

Basement has a car parking facility for 500 cars.

It has wooden flooring in match courts and show courts. Lower rows were retractable. If more space is required then they can be retracted

CRICKET STADIUM



Fig. 62

- The space on the ground covers about 4 acres, and the entire area is approximately 9 acres in size.
- It's enclosed by tracks for jogging.
- To the south of it, there's a stadium that can hold about 2000 people.

HOCKEY



Fig. 63

- The area is about 1.5 acres in size.
- There are both temporary and permanent seats for spectators.
- Inside the building, there's a bathroom.
- The ground has artificial grass.

LAWN TENNIS COURT



SYNTHETIC TENNIS COURT



PRACTICE COURT

Fig. 64

- YSC has a total of 10 tennis courts. Among them, 2 are made of synthetic material, 5 are made of sand, and 3 are made of concrete.
- There are also 2 practice walls located between the administrative building and the tennis courts.
- You'll find seating on both sides for spectators at 1 synthetic court and 1 clay court.

GREEN INITIATIVES

- The building faces North.
- It collects rainwater.
- It has a system to treat wastewater.
- It uses energy-efficient CFL lighting.
- It uses solar tubes for natural lighting in galleries.
- Solar cells are used for power.
- Fly ash bricks are used to dispose of waste from the powerhouse.
- It's well insulated to keep heat in:
 1. Using hollow concrete blocks and cavity walls in walls.
 2. Installing double-insulated glass for windows.
 3. Adding thermal insulation to the roof and walls.
- Water is conserved by using recycled water for toilets and gardening.
- Toilets have dual-flush systems.

MERITS

- There are ramps for easy access.
- The place has sprinklers and fire detectors for safety.
- Special accommodations are available for people with physical challenges.
- The stadiums have seats that can be moved back and forth.
- There's plenty of parking space.
- Battery-operated cars are available for getting around the sports complex.

DEMERITS

- There's just a single basketball court.
- The parking area is quite far from the event venues.
- The distance between the two stadiums is quite big.

5.6. CASE STUDY INFERENCES

1. SHREE SHIV CHHATRAPATI SPORTS COMPLEX, BALEWADI, PUNE

- Shree Shiv Chhatrapati Sports Complex, Balewadi is a big sports area that covers 150 acres.
- However, they don't have facilities for playing cricket.
- They offer training sessions in the morning (6 am to 9 am) and in the evening (3 pm to 6 pm), which is convenient for both students and people with jobs.
- Only the seating area is covered, while the pools are outdoors.
- All the fields are aligned from north to south.
- The main administrative building for the stadium is located nearby.
- According to NBC's rules, there should be one car parking space for every 260 seats in the stadium.
- National athletes and staff members might stay in a large hostel some distance away from the sports complex during selections.
- There isn't a designated area for students to relax and have fun.

2. ARMY SPORTS INSTITUTE, PUNE

The arena complex has both outdoor and indoor sports facilities. Athletes can use sports science-related amenities like relaxation rooms, hydrotherapy areas, hypoxia chambers, rehab gyms, and steam rooms to help them improve and grow.

3. ANDHERI SPORTS COMPLEX

The complex has places for big sports competitions in the country. It's in a good location in Mumbai. The Athletes Village can hold 500 athletes and is built to host upcoming sports events. They have separate areas for indoor and outdoor sports. They've used landscaping to make the area more peaceful and appealing.

4. GOREGAON SPORTS CLUB

A study of the Goregaon Sports Club, which is in a busy city area, found that when planning a building, it's important to think about the nearby surroundings and how sports facilities can be combined with other business activities. This way, the building can stay useful even when there's no sports happening.

5. YAMUNA SPORTS COMPLEX, NEW DELHI

This sports complex is big and has various sports areas. It might be a bit confusing inside because there are many places.

There are five entrances, each for different sports. They offer a lot of activities like tennis, basketball, and more.

The complex is about 9 acres and has a small stadium for 2000 people. It's eco-friendly with things like collecting rainwater and using energy-saving lights.

Good things are it's easy to get around with ramps, has safety measures, parking, and even battery cars for moving.

But, there's only one basketball court, parking is far from events, and the stadiums are quite a distance apart.



6. DESIGN RESEARCH

HOCKEY

1. The playing area is a rectangular shape that's 91.40 meters long and 55.00 meters wide.
2. The longer sides of the field are marked by side-lines.
3. The shorter sides of the field are marked by backlines.
4. The goal-lines are the parts of the backlines that sit between the goalposts.
5. A line in the middle of the field is called the center-line.
6. There are lines known as 23-meter lines, which are positioned 22.90 meters from each backline.
7. Near the goals and across from the centers of the backlines, you'll find areas referred to as circles.
8. In front of each goal, there are penalty spots that are 150 mm in diameter. They are located 6.40 meters from the inner edge of the goal-line.
9. All the lines on the field are 75 mm wide, and they are considered part of the playing area.
10. At each corner of the field, there are flag-posts that stand between 1.20 and 1.50 meters in height.

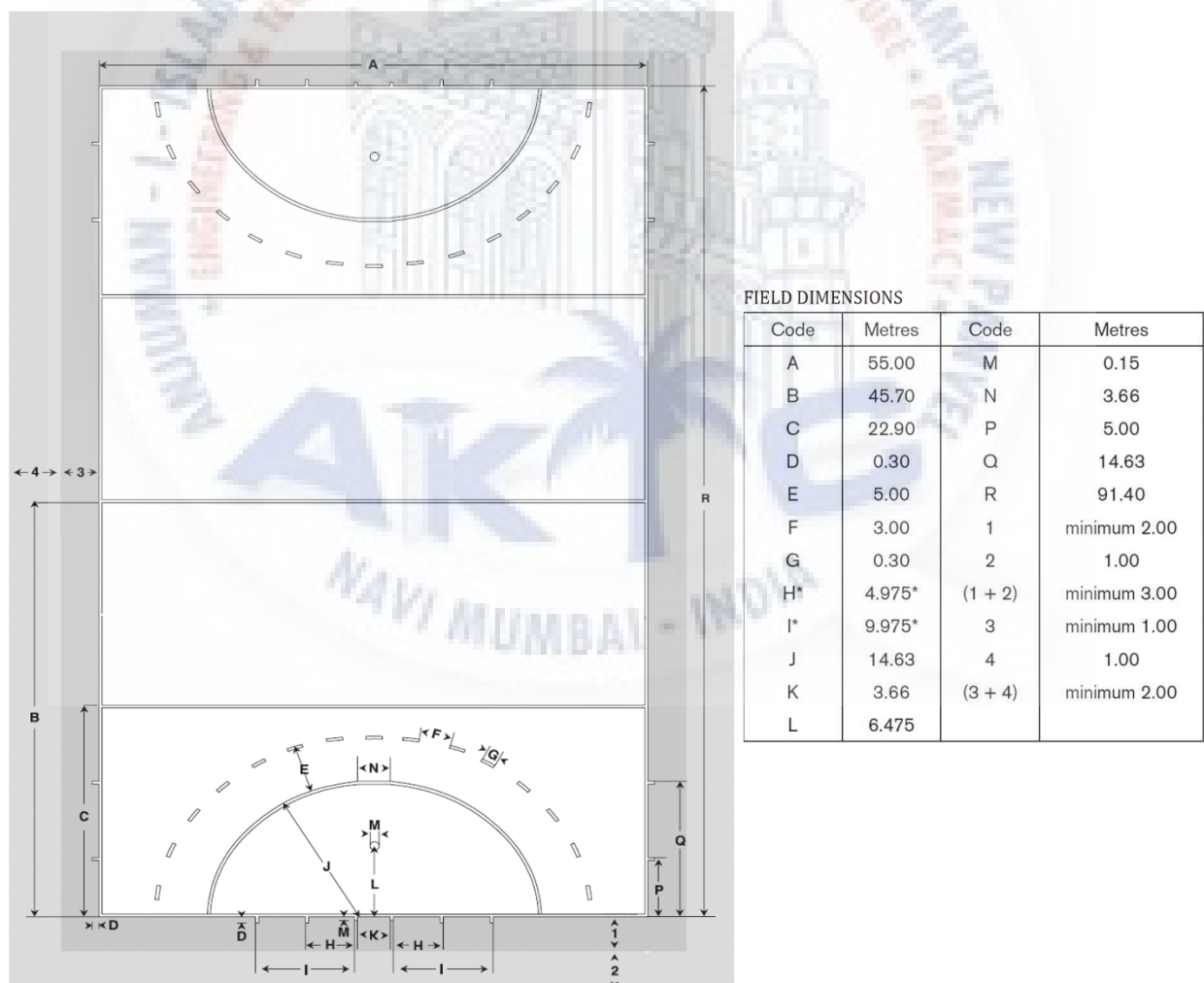


Fig. 65

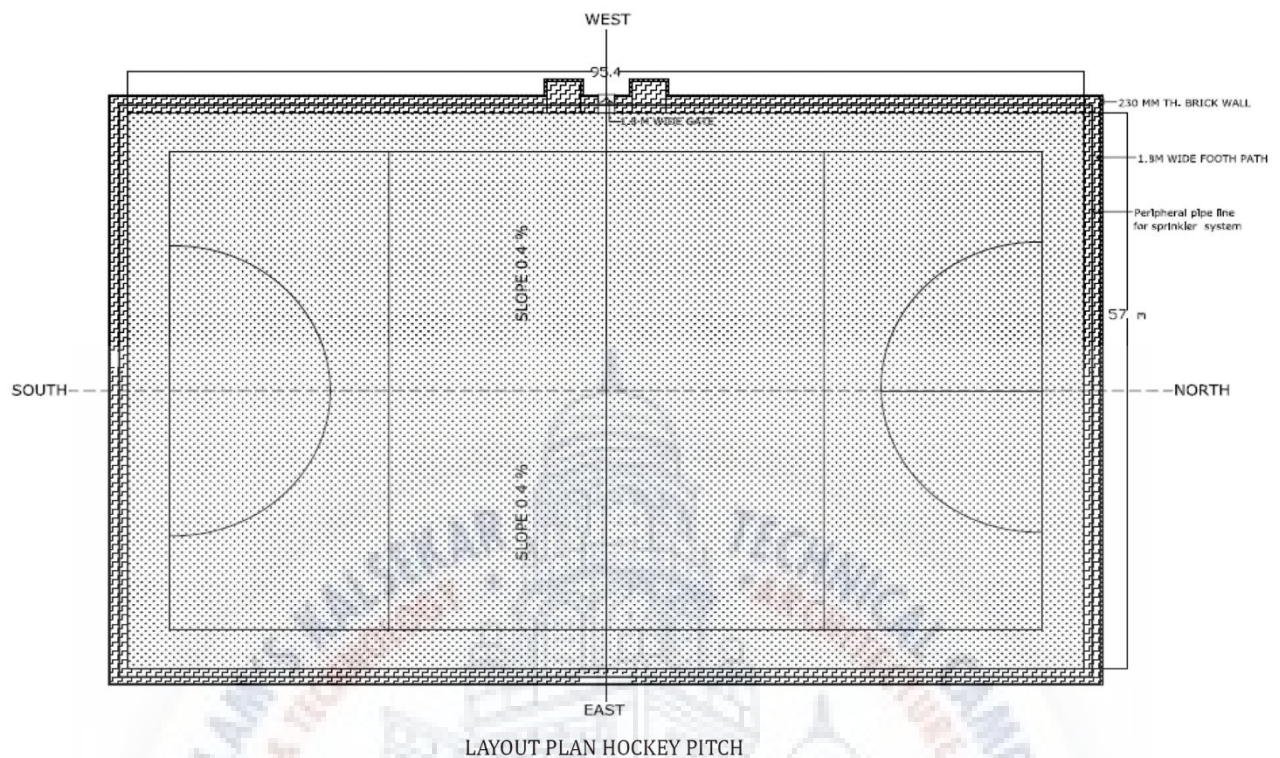
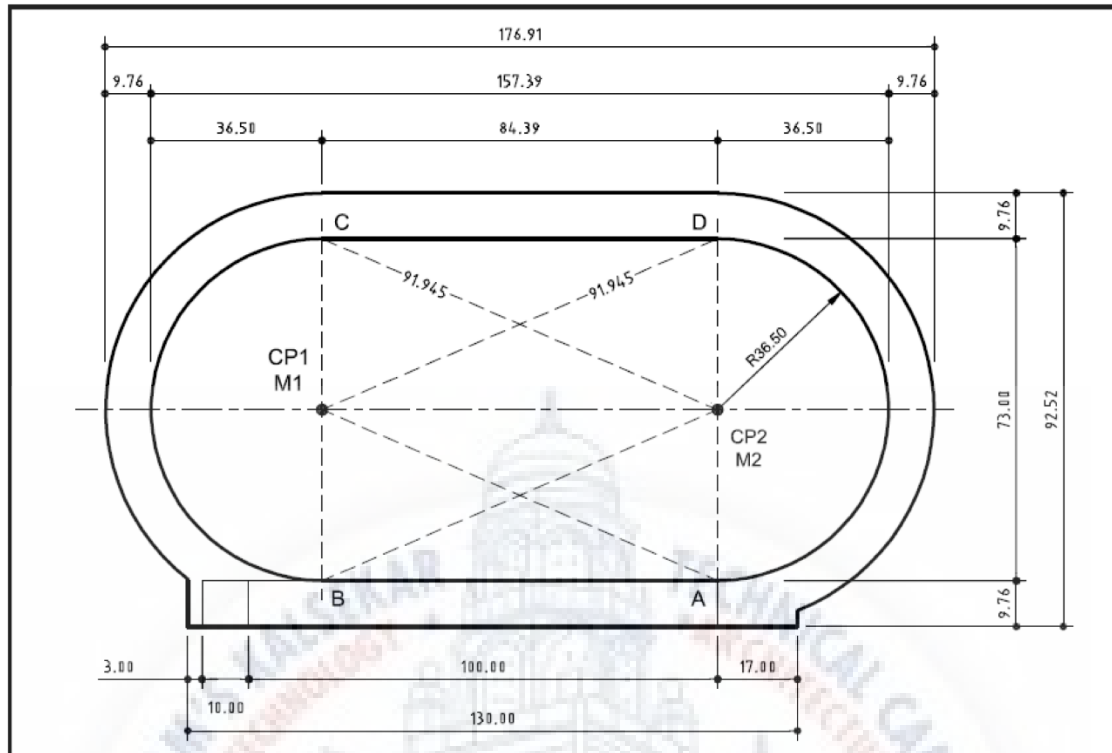


Fig. 66

ATHLETIC TRACK

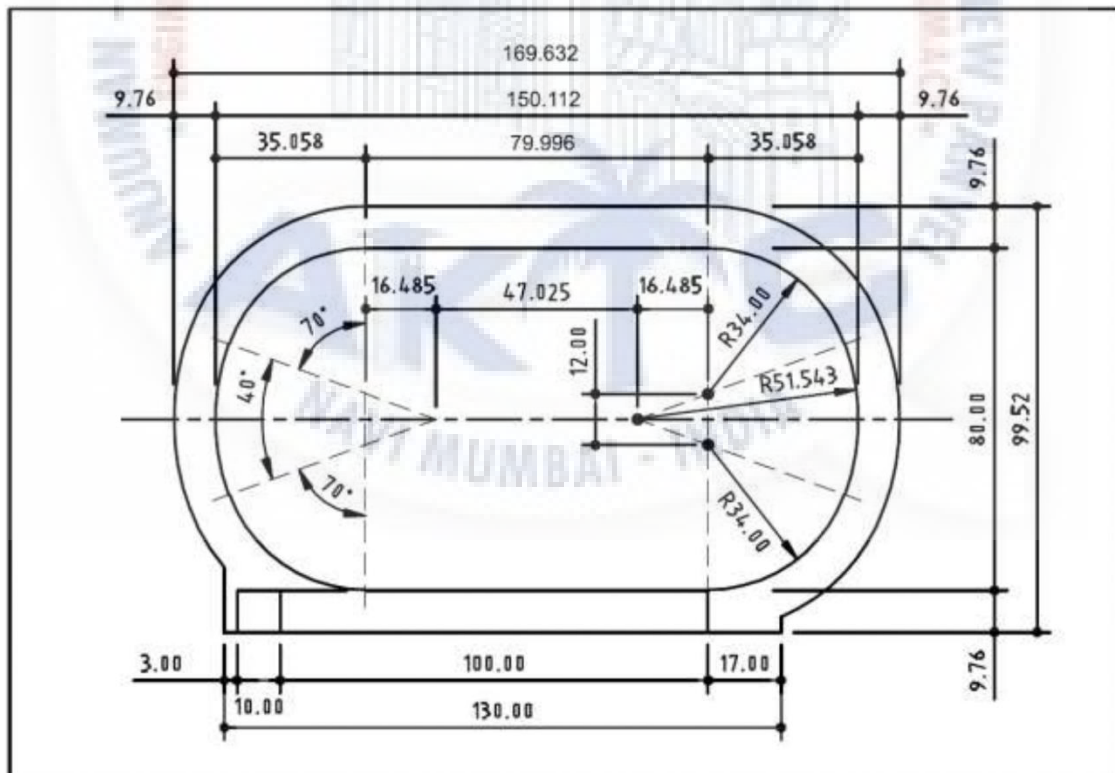
It's common for an athletics track to be used for other sports too. Typically, this means turning the inside of the 400-meter track into a field for sports like soccer, American football, or rugby. So, these athletic tracks are designed to be multipurpose, with room for playing fields inside. To make space for these fields, the 400-meter oval track can come in different shapes and types.

	Type of 400m Oval Track			
	Standard Track	Double Bend Track		
R = Radius	R = 36.50	R1 = 51.543 R2 = 34.000	R1 = 48.00 R2 = 24.00	R1 = 40.022 R2 = 27.082
G = Straights	G = 84.39	G = 79.996	G = 98.52	G = 97.256
F = Figure	F = 1.2.3a	F = 1.2.3b	F = 1.2.3c	F = 1.2.3d
Rectangular Interior				
Width	73.00	80.000	72.00	69.740
Length	84.39	79.996	98.52	97.256
Dimension of Segment				
Width	73.00	80.000	72.00	69.740
Length	36.50	35.058	27.22	29.689



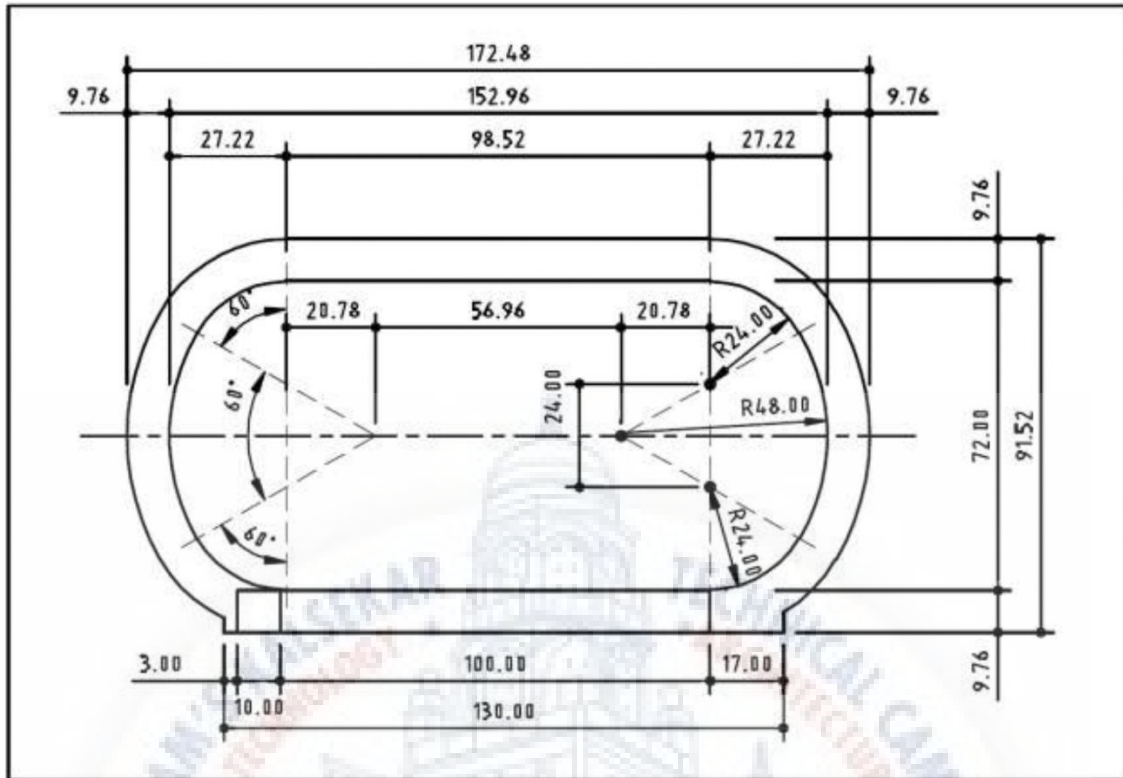
SHAPE AND DIMENSIONS OF THE 400M STANDARD TRACK (RADIUS 36.50M)
(DIMENSIONS IN M)

Fig. 67



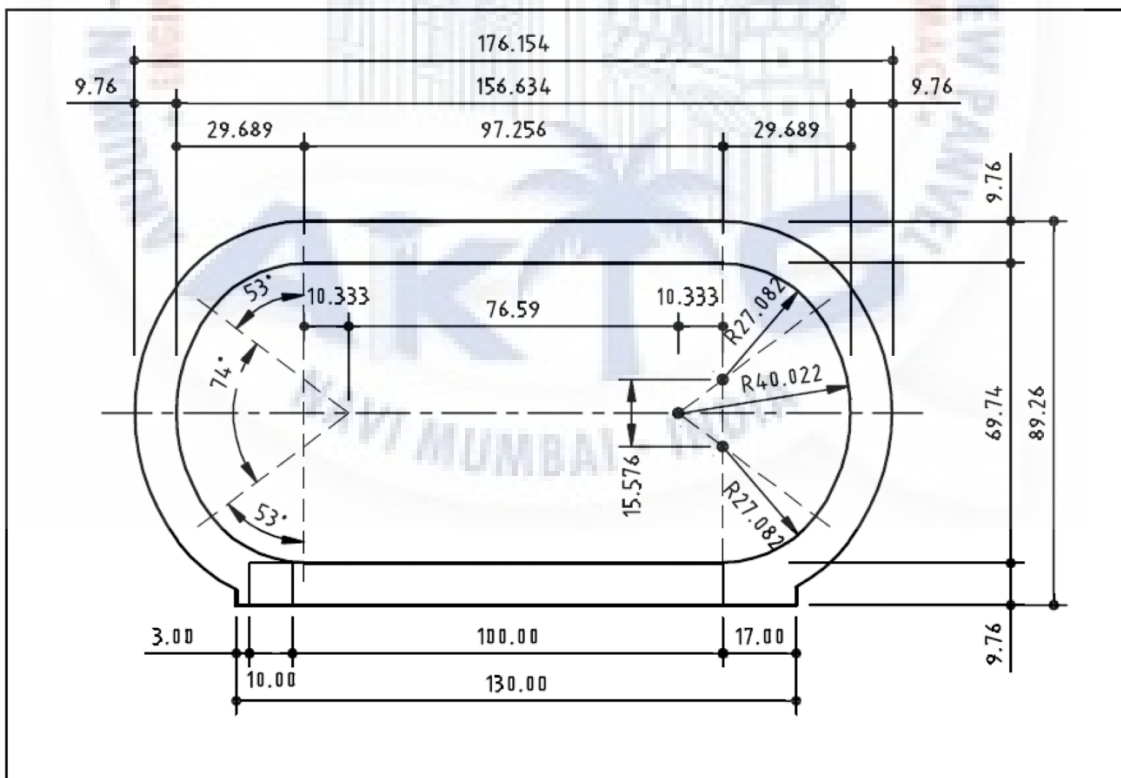
SHAPE AND DIMENSIONS OF THE 400M DOUBLE BEND TRACK (RADIUS 51.543M AND 34.00M)
(DIMENSIONS IN M)

Fig. 68



SHAPE AND DIMENSIONS OF THE 400M DOUBLE BEND TRACK (RADII 48M AND 24M)
(DIMENSIONS IN M)

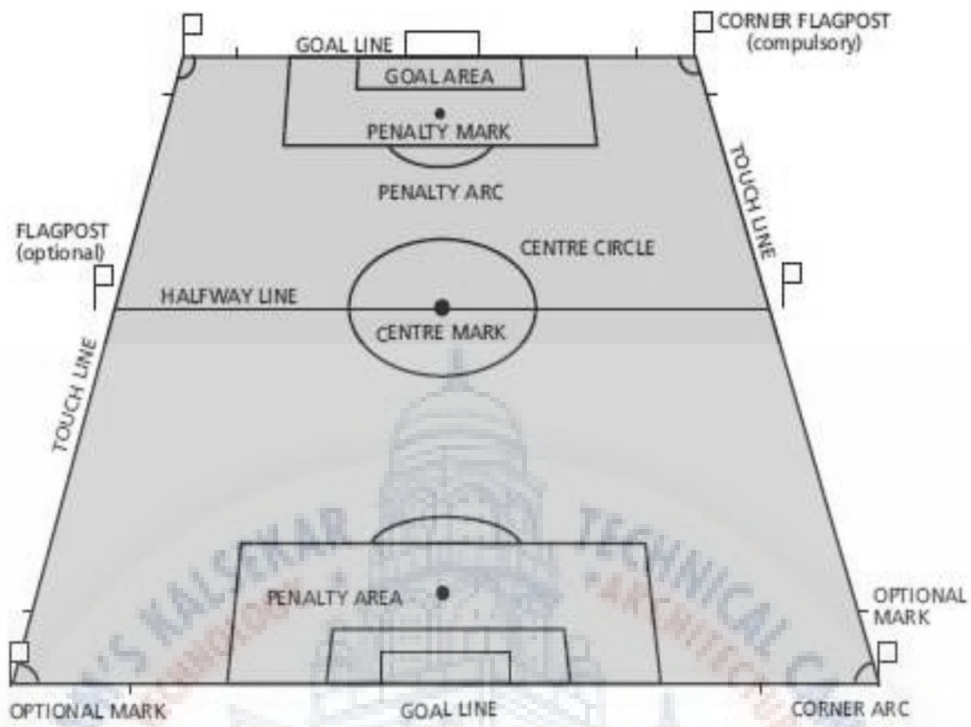
Fig. 69



SHAPE AND DIMENSIONS OF THE 400M DOUBLE BEND TRACK (RADII 40.022M AND 27.082M)
(DIMENSIONS IN M)

Fig. 70

FOOTBALL



THE FIELD OF PLAY

Fig. 71



METRIC MEASUREMENTS

Fig. 72

Dimensions

The length of the touch line must be greater than the length of the goal line

Length (touch line)	minimum	90m (100yds)
	maximum	120m (130yds)
Width (goal line)	minimum	45m (50yds)
	maximum	90m (100yds)

international matches

Length (touch line)	minimum	100m (110yds)
	maximum	110m (120yds)
Width (goal line)	minimum	64m (70yds)
	maximum	75m (80yds)

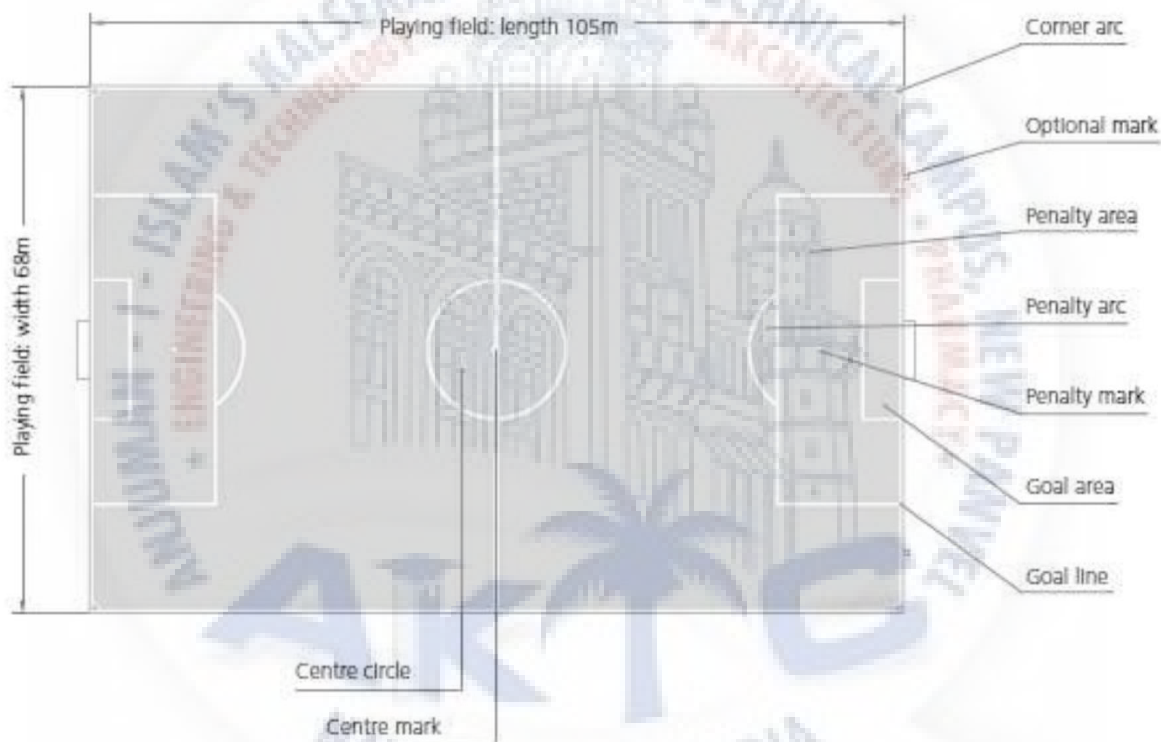
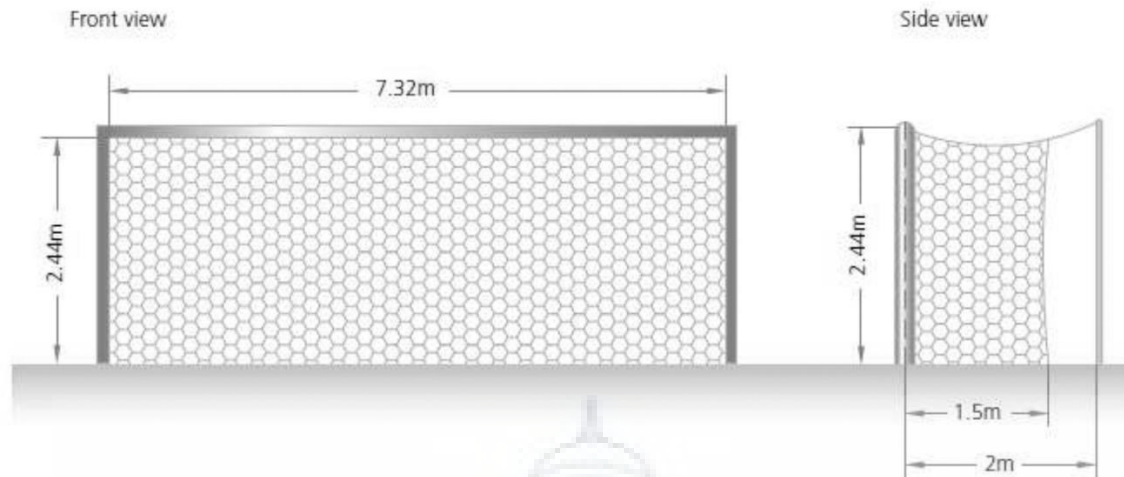


Fig. 73



LAWN TENNIS

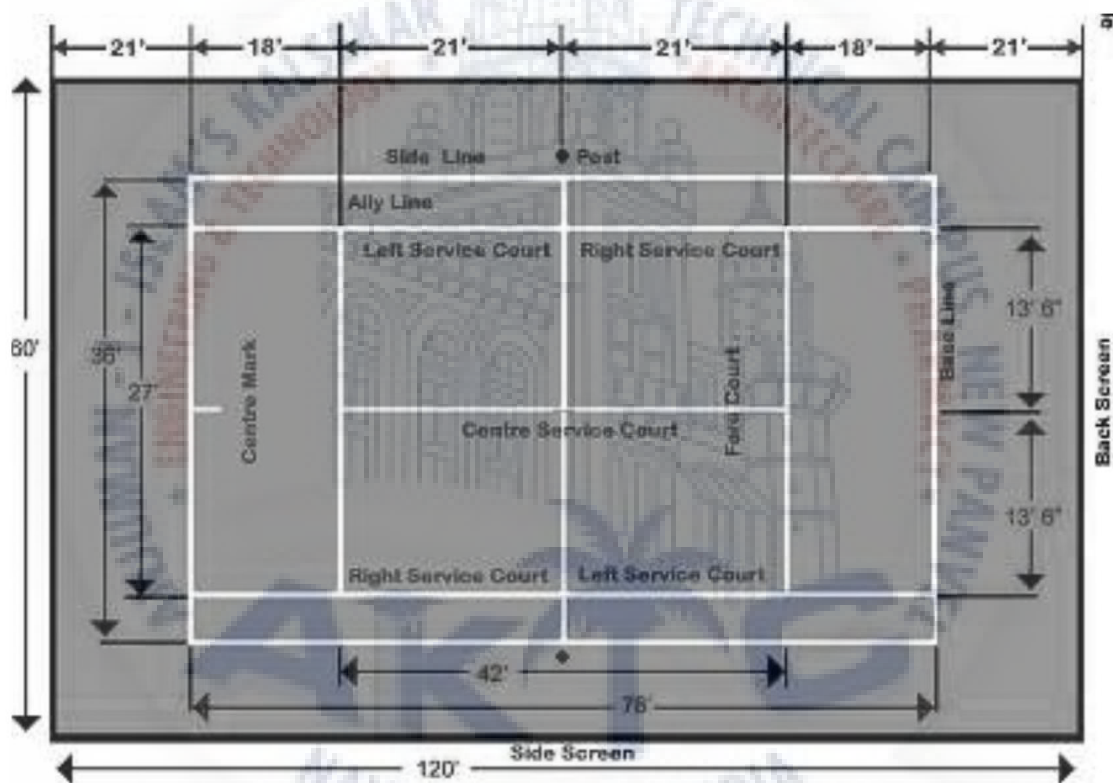


Fig. 74

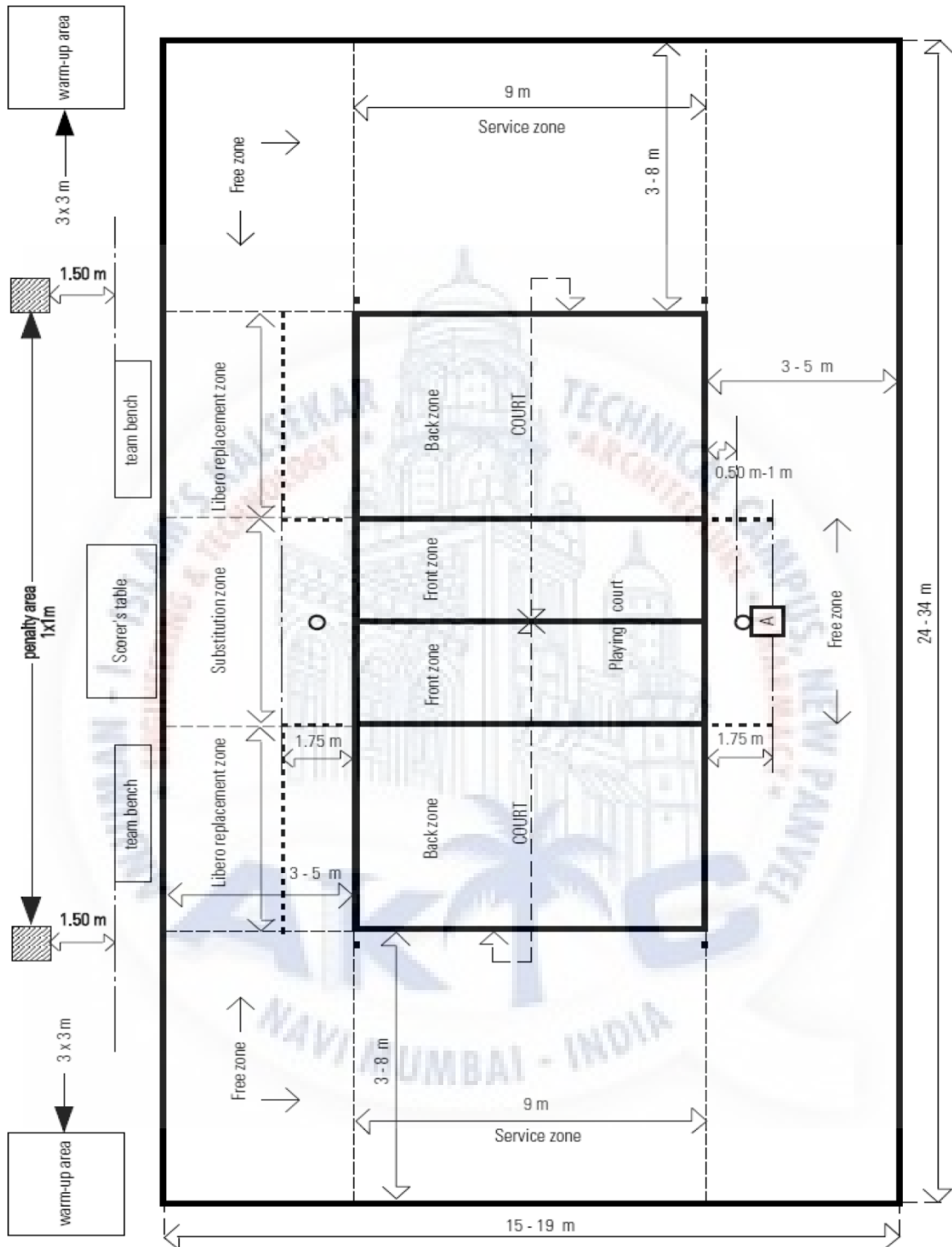
Types of Court Surfaces:

- Natural Grass
- Clay
- Artificial Grass
- Acrylic floor Surface

Drainage:

A tennis court should be mostly flat, but it should have a slight 1% slope from one side to the other to let water flow away. To prevent problems like soil saturation or erosion, you can use a concrete and steel-reinforced V-ditch drain next to the court to collect and redirect the water away from the court area.

VOLLEYBALL



VOLLEYBALL COURT: PLAYING AREA

Fig. 75

	Recreational	Club/ County/ Regional	National	International
Playing area				
Length	18.0	18.0	18.0	18.0
Width	9.0	9.0	9.0	9.0
Backline clear space	3.0	3.0	5.0	8.0
Sideline clear space	3.0	3.0 min	3.0 min	5.0
Officials' space (additional on one side)	–	2.0	2.0	3.0
Spectators' margin (additional on the other three sides)	–	–	2.0	3.0
Minimum overall space				
Area	24 x 15	24 x 17	28 x 19	40 x 25
Clear height	7.0	8.0	10.5	12.5

BASKETBALL

	Recreational/ Club	County/ Regional	National/ International
Playing area			
Length	24–28	24–28	28
Width	13–15	13–15	15
Out-of-bounds surround	1.05 min	2.05	2.05 min
Extra one side for officials and team areas	0.9 min	3.0	3.0
Minimum overall space			
Area	R: 20.1 x 12.1 C: 30.1 x 18 to 26.1 x 16	32.1 x 22.1 to 28.1 x 20.1	32 x 22.1
Height	R: 6.7 C: 7.0	7.0	7.0

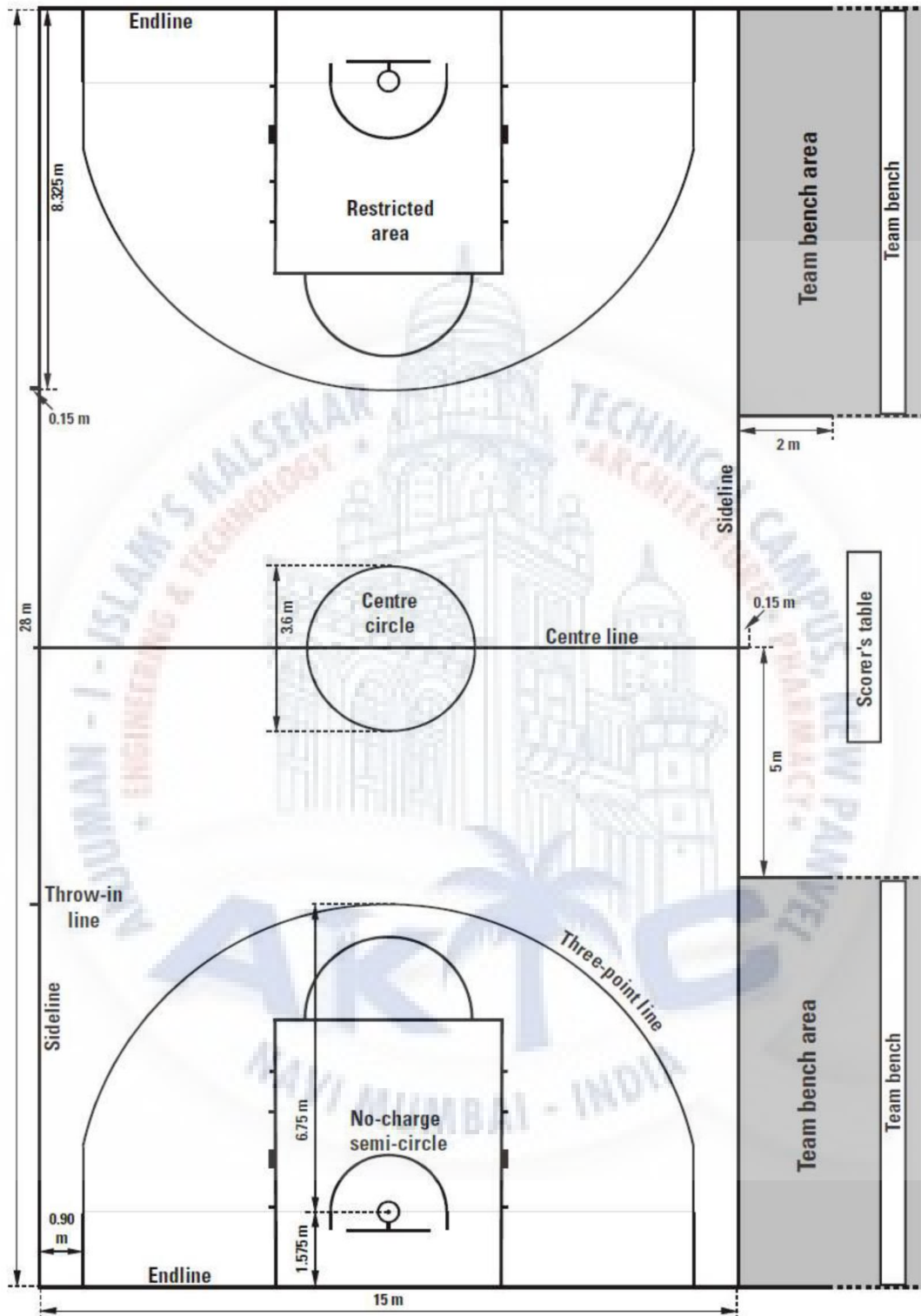


Fig. 76

BADMINTON

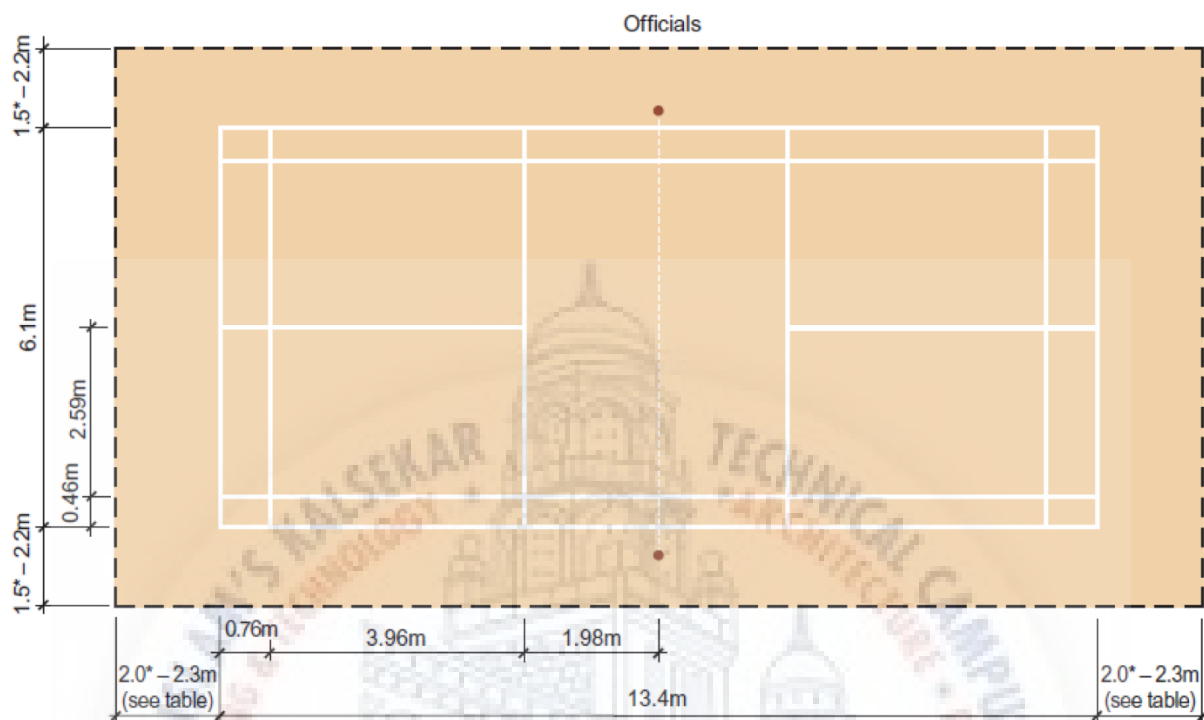


Fig. 77

	Recreational/ Club	County/ Regional	National/ International
Minimum height over court	7.6	9.1	9.1
Playing area (doubles court)			
Length	13.4	13.4	13.4
Width	6.1	6.1	6.1
Wall from baseline, min	2.0*	2.3	2.3
Wall from sideline	1.5 min	2.2	2.2
Between parallel courts, min	1.5*	2.0	2.0
Minimum overall area			
For a single court	17.4 x 9.1	18 x 10.5	18 x 10.5
For a parallel pair	17.4 x 16.7	18 x 18.6	18 x 18.6
For each additional court	+7.6	+8.1	+8.1

*Baseline to division netting 1.5 min; sideline to division netting 1.2 min

MULTIPURPOSE PLAYFIELD

Standard competition layout

The IAAF suggests a standard layout for competition areas. They spread out the field events evenly across the arena to prevent crowding and make sure the spectators are happy. This design also avoids interrupting events with ceremonies and helps balance the crowd's focus on the finish area.

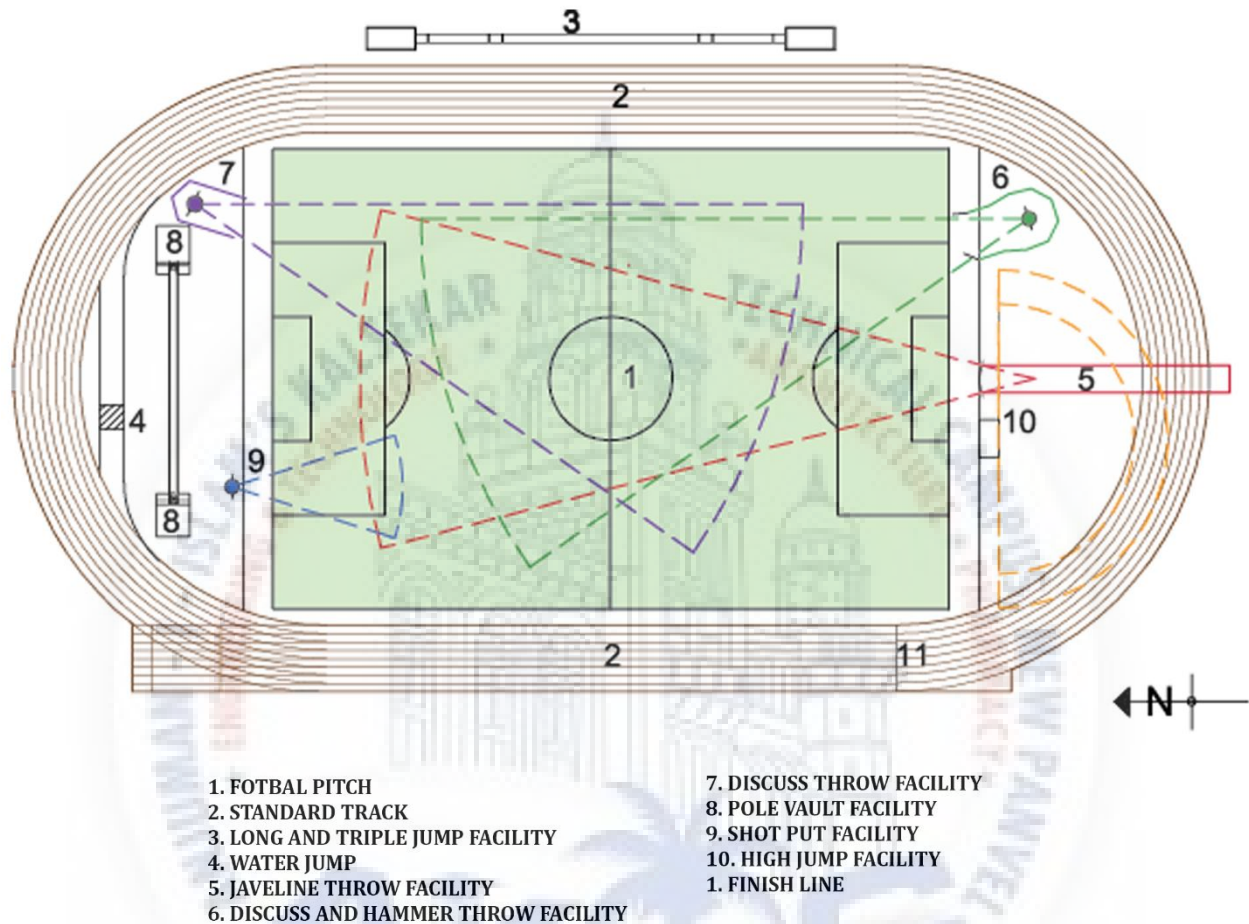


Fig. 78

7. TENTATIVE ARCHITECTURAL SPACE PROGRAM

- **INSTITUTIONAL BLOCK**
- **FOOTBALL, ATHLETIC STADIUM**
- **INDOOR SPORTS AREA**
- **HOSTEL BLOCK**

INSTITUTIONAL BLOCK

❖ **Admin department**

- Regional sports officer
- Admin head office
- Record room
- Store
- Accounts room
- Director office
- HOD office
- Male staff room
- Female staff room
- Conference room
- Toilet

❖ **Canteen**

- Kitchen
- Storage
- Outdoor sitting area
- Indoor sitting area
- Toilet

❖ **Seminar hall**

- Waiting area and reception
- Seminar hall
- Guest room
- VIP lounge
- Coaches room
- Physio room
- Classroom
- Library

❖ **Academy block**

- Reception and waiting area
- Sports lab
- Exhibition hall
- toilet

FOOTBALL, ATHLETIC STADIUM

- Athletic arena
 - stand
 - 400m synthetic track
 - Long jump
 - Triple jump
 - High jump
 - Pole vault
 - Discuss throw
 - Shot pit
 - Javeline throw
 - Football field
 - Practice ground
 - Sitting stand
 - Toilet
 - Entrance lobby and reception
 - Changing room
 - Shower area
- ❖ **Swimming arena**
- 8 lane Olympic size swimming pool
 - Practice pool
 - Stand
 - Diving pool
 - Changing room
 - Toilet
 - Shower area
- ❖ **Outdoor basketball court**
- ❖ **Outdoor lawn tennis court**
- ❖ **Sport shops**

INDOOR SPORTS AREA**❖ Badminton, table tennis and board games**

- Reception
- Waiting area for players
- Waiting area For visitors
- stand
- Badminton court (13.4 x 6.1m)
- Table tennis area
- Board games
- Admin department
- Toilet
- Storage

❖ Basketball, kabaddi, squash, gymnastics, wrestling, weightlifting and boxing hall

- Reception and waiting area
- Waiting area for players and visitors
- Basketball arena
- Kabaddi arena
- stand
- Squash
- Gymnastics hall
- Boxing
- Wrestling
- weightlifting
- Admin department
- Storage
- Toilet

HOSTEL BLOCK

❖ Boys hostel block

- common rooms
- Changing room
- Warden room
- Toilet
- Laundry

❖ Dining area

- Dining hall
- Kitchen
- Reception
- Storge

❖ Girls hostel block

- common rooms
- Changing room
- Warden room
- Toilet
- Laundry

❖ Dining area

- Dining hall
- Kitchen
- Reception
- storge

7.1. AREA PROGRAM

DESCRIPTION	NO. OF USERS	TOTAL NO. OF UNITS	AREA PER UNIT (SQ.MT)	AREA (SQ.MT)
ACADEMY BLOCK				
ENTRANCE LOBBY AND RECEPTION AREA	150	1	300	300
ADMIN				
REGGIONAL SPORTS OFFICER		1	45	45
ADMIN HEAD OFFICE		1	45	45
RECORD ROOM		1	50	50
ACCOUNTS ROOM		1	75	75
STORE		1	20	20
DIRECTOR OFFICE		1	45	45
HOD OFFICE		1	45	45
MALE STAFF ROOM		15	7.5 (PER PERSON)	150
FEMALE STAFF ROOM		15	7.5 (PER PERSON)	150
VISITING MALE STAFF		1	75	75
VISITING FEMALE STAFF		1	75	75
CONFERENCE ROOM	25	1	100	100
CANTEEN				
CLOSED	50	1	90	90
SEMI OPEN	100	1	250	250
KITCHEN		1	60	60
STORE		2	30	60
GENTS TOILET		5	6	30
LADIES TOILET		5	6	30
SEMINAR HALL				
WAITING AREA AND RECEPTION	200	1	400	400
SEMINAR HALL	100	2	180	360
GUEST WAITING ZONES				
VIP LOUNGE		1	45	45
REFREE ROOM		1	75	75
COACHES ROOM		1	75	75
PHYSIO ROOM		1	75	75
CLASSROOM	60	5	150	900
LIBRARY	180	1	200	200
COMPUTER LAB	70	1	200	200
ACADEMY TOILETS				
GENTS TOILET		8	20	160
LADIES TOILET		8	20	160
EXHIBITION HALL	250	1	500	500
RECEPTION AND WAITING AREA	20	1	60	60

DESCRIPTION	NO. OF USERS	TOTAL NO. OF UNITS	AREA PER UNIT (SQ.MT)	AREA (SQ.MT)
SPORTS LAB 1		1	400	400
SPORTS LAB 2		1	400	400
SPORTS LAB 3		1	400	400
STAFF ROOM		1	50	50
GENTS TOILET		5	25	125
LADIES TOILET		5	25	125



FOOBALL AND ATHLETIC STADIUM

FOOTBALL AND ATHLETIC STADIUM				
ATHLETIC AREANA (8 LANE TRACK) 400M SYNTHETIC TRACK LONG JUMP/ TRIPLE JUMP HIGH JUMP/ POLE VAULT DISCUSS THROW/ SHOT PIT/ JAVELINE THROW		1	16,740	
FOOTBALL FIELD		1	105 X 68M	105 X 68M
PRACTICE GROUNDS		3	45 X 25	45 X 25
SITTING STAND	5000 PEOPLE PER STANDBOX	4	3000	12000
GENTS TOILET		2	20	40
LADIES TOILET		2	20	40
ADMINISTRATION BLOCK				
ENTRANCE LOBBY+ RECEPTION	40	1	200	200
TEAM CHANGING ROOM 1		1	50	50
TEAM CHANGING ROOM 2		1	50	50
TEAM SHOWER ROOM 1		1	10	10
TEAM SHOWER ROOM 2		1	10	10
TOILETS 1		1	10	10
TOILETS 2		1	10	10

SWIMMING AREA

SWIMMING AREA				
8 LANE OLYMPIC SIZE POOL		1	50 X 25M	50 X 25M
PRACTICE/ WARM UP POOL		1	25 X 18 M	25 X 18 M
STAND	1650 APPROX.	1	1350	1350
DIVING POOL		1	23 X 18M	23 X 18M
GENTS CHANGING ROOM		2	20	40
LADIES CHANGING ROOM		2	20	40
GENTS TOILET		2	20	40
LADIES TOILET		2	20	40
OPEN SHOWER AREA		1	20	20
WATER CLEANING ROOM				

INDOOR SPORTS AREA

INDOOR SPORTS 1 (BADMINTON, TABLE TENNIS, BOARD GAMES)				
RECEPTION AND WAITING AREA	60	1	300	300
WAITING AREA 1 (FOR PLAYERS)	50	1	250	250
WAITING AREA 2 (FOR PLAYERS)	50	1	250	250
BADMINTON ARENA (BADMINTON COURT) 13.4 X 6.1 M EACH	1250	1	31.5 X 52M	1650
TABLE TENNIS HALL		1	14.5 X 15M	220 APPROX.
BOARD GAMES		1	11.7 X 12.7M	150 APPROX.
ADMIN DEPARTMENT	40	1	30	30
GENTS TOILET		3	20	20
LADIES TOILET		3	20	20
STORE ROOM		1	30	30

INDOOR SPORTS 2 (BASKETBALL, KABADDI, SQUASH, GYMNASTICS, BOXING HALL)				
RECEPTION AND WAITING AREA	60	1	300	300
WAITING AREA 1 (FOR PLAYERS)	50	1	250	250
WAITING AREA 2 (FOR PLAYERS)	50	1	250	250
BASKETBALL AND KABADDI ARENA	1250	1	31.5 X 52M	1650
SQUASH		1	14.5 X 15M	220 APPROX.
GYMNASTICS HALL		1	11.7 X 12.7M	170 APPROX.
BOXING HALL		1	11.7 X 12.7 M	170 AAPPROX.
ADMIN DEPT		1	30	30
GENTS TOILET		3	20	60
LADIES TOILET		3	20	60
STORE ROOM		1	30	30

BOYS HOSTEL BLOCK				
TRIPLE SHARING ROOM	90	32	20	640
TWIN SHARING ROOM	20	10	20	200
WARDEN ROOM		1	20	20
COMMON TOILET		2	20	20
LAUNDRY		2	40	80
DINING AREA				
DINING HALL	100	1	125	125
KITCHEN		1	40	40
MANAGER ROOM		1	10	10
STORE ROOM		1	10	10
GIRLS HOSTEL BLOCK				
TRIPLE SHARING ROOM	90	32	20	640
TWIN SHARING ROOM	20	10	20	200
WARDEN ROOM		1	20	20
COMMON TOILET		2	20	20
LAUNDRY		2	40	80
DINING AREA				
DINING HALL	100	1	125	125
KITCHEN		1	40	40
MANAGER ROOM		1	10	10
STORE ROOM		1	10	10

OUTDOOR BASKETBALL COURT		3	25 X 15M	
OUTDOOR LAWN TENNIS COURT		2	10.97 X 23.7 M	
SPORTS SHOPS		3	50	150
PARKING				

8. SITE SELECTION AND JUSTIFICATION

8.1. POSSIBLE PROPOSED SITE

EDITION  IN ▾  MUMBAI  34°C

THE TIMES OF INDIA [SUBSCRIBE](#)

City **Navi Mumbai** Mumbai Delhi Bengaluru Hyderabad Kolkata Chennai Agra Agartala Ahmedabad Ajmer

WEATHER MAHARASHTRA ELECTIONS

NEWS / CITY NEWS / NAVI MUMBAI NEWS / NMHC To Develop Rs-600cr Sports Centre In Ghansoli

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Navi Mumbai: If things go as planned, the city will house a first-of-its-kind [Regional Sports Centre](#) (RSC) in the entire Konkan Division. The civic body will be developing this multi-purpose sports centre on 36 acres of land at plot no 1 in sector 13, [Ghansoli](#), which has been reserved by [Cidco](#) for sports facilities.

Plans for the sports centre include facilities such as a hockey stadium, synthetic track, Olympic-sized swimming pool, indoor stadium, kabaddi and kho kho stadium, an International Sports Academy and a gigantic parking lot.

8.2. LOCATION



Fig. 79

The proposed site is located in plot no. 1, sector 13, Ghansoli, Navi Mumbai, Maharashtra, 400701

The total area of ground is 1,45,687 SQM (36 acre)

8.3. SITE JUSTIFICATION:

Urban Context and Career Prospects: Navi Mumbai's urban context offers numerous opportunities and challenges that can help both skilled and unskilled athletes pave their way towards successful careers. The city's dynamic environment provides a unique backdrop for sports development and personal enjoyment.

Strategic Location and Accessibility: Ghansoli, Navi Mumbai's strategic location ensures easy access from major cities, making it a viable choice for hosting regional sports events. The city's proximity to Mumbai positions it as an ideal hub for sports enthusiasts and visitors.

Sports Development and Employment Opportunities: Building a sports complex in Ghansoli, Navi Mumbai, will facilitate the production of international-standard athletes and generate employment opportunities for local residents. This initiative can serve as a talent incubator for the Konkan region.

Academic and Industrial Synergy: Navi Mumbai's proximity to fast-developing industries, colleges, and universities in the region creates opportunities for collaboration and knowledge exchange. The sports complex can serve as a hub for sports-related research, training, and education.

Urban Seclusion and Security: Despite its urban environment, the chosen site in Ghansoli offers a degree of seclusion from the city's noise and distractions. This seclusion can create a serene and focused atmosphere for athletes. Additionally, the site's urban setting ensures safety and security, as it is not located in a remote area.

Excellent Public Transport Connectivity: The site's excellent connectivity to public transport systems ensures that athletes, spectators, and staff can easily reach the sports complex. This accessibility encourages participation in sports activities and events.

Integration with Road and Rail Networks: The site is well-connected to both road and rail networks, making it accessible to a wide range of visitors. This connectivity facilitates the easy movement of athletes, fans, and support staff.



8.4. PROPOSED LAND USE

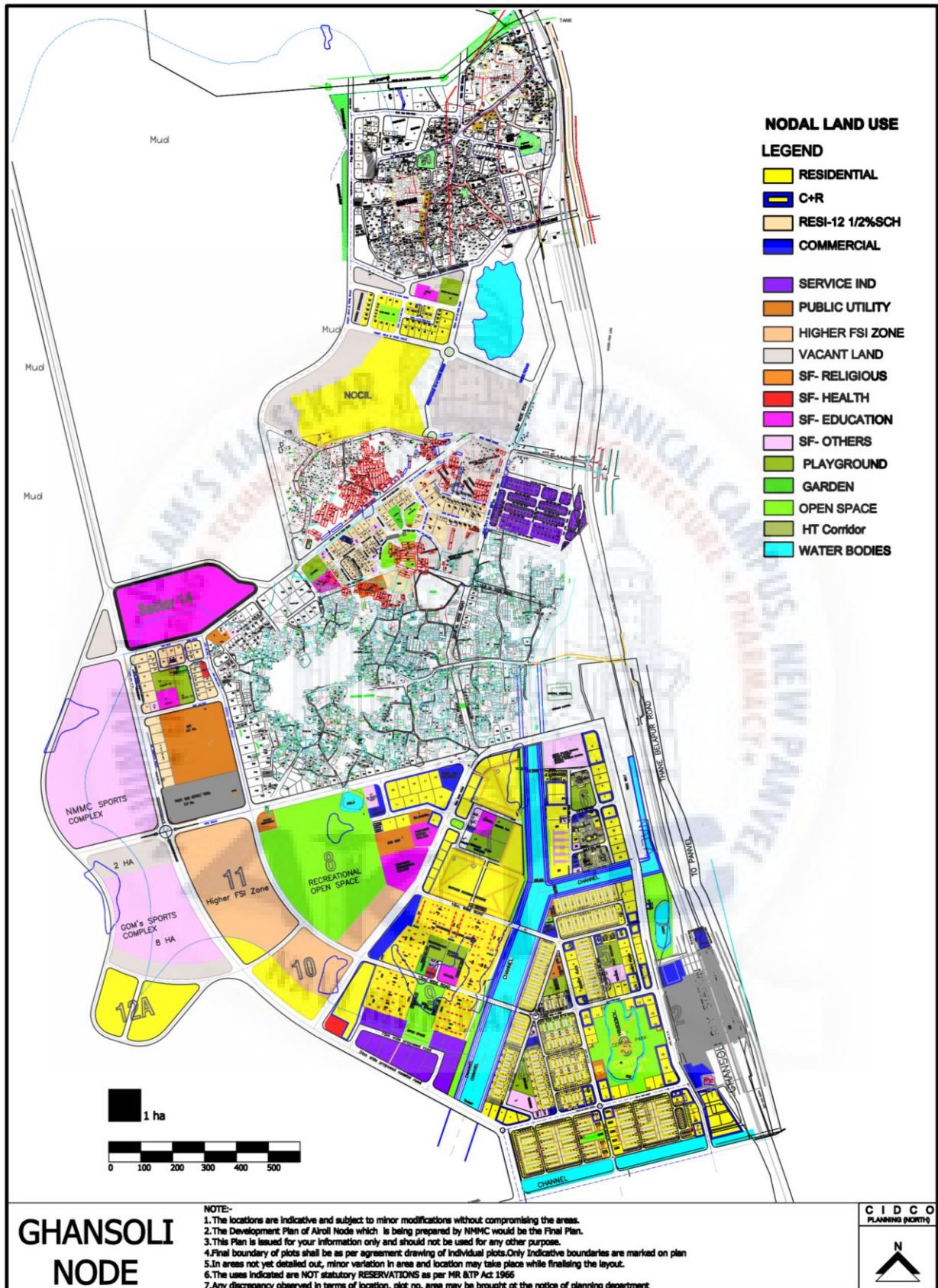


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9. BIBLIOGRAPHY

1. Khureja, K. (2021, August 9). *Sports sector in India: Issues and challenges - explained, pointwise -forumias blog*. Free UPSC IAS Preparation For Aspirants.
<https://forumias.com/blog/sports-sector-in-india-issues-and-challenges/>
2. A status study of sports facilities management available in Indian ... (n.d.).
https://www.researchgate.net/publication/339427748_A_Status_Study_of_Sports_Facilities_Management_Available_in_Indian_Educational_Institutions
3. somani, vaibhav. (2022, September 29). *Financialexpress*. Sports News | The Financial Express. <https://www.financialexpress.com/sports/importance-of-infrastructure-and-facilities-in-sports/2694013/>
4. patil, S. (1970, January 1). *A study of emerging challenges in physical education and sports in Kokan region of Maharashtra*. Shodhganga@INFLIBNET: A Study of Emerging Challenges in Physical Education and Sports in Kokan Region of Maharashtra.
<https://shodhganga.inflibnet.ac.in:8443/jspui/handle/10603/477664>
5. *Sports authority of india: Ministry of Youth Affairs and Sports*. Sports Authority of India | Ministry of Youth Affairs and Sports. (n.d.). <https://sportsauthorityofindia.nic.in/sai/>
6. Wikimedia Foundation. (2023, October 31). *Sport in India*. Wikipedia.
https://en.wikipedia.org/wiki/Sport_in_India
7. *Appeal for sponsorship*. Khelo India. (n.d.). <https://kheloindia.gov.in/>
8. B B Nayak / TNN / Nov 28, 2016. (n.d.). *NMMC to develop Rs 600cr Sports Centre in Ghansoli: Navi Mumbai News - Times of India*. The Times of India.
<https://timesofindia.indiatimes.com/city/navi-mumbai/nmmc-to-develop-rs-600cr-sports-centre-in-ghansoli/articleshow/55653178.cms>
9. Sport in India. (n.d.). <https://www.topendsports.com/world/countries/india.htm>
10. User, S. (n.d.). Balewadi Stadium. <https://www.shashiprabhu.com/work/sports/balewadi-stadium.html>
11. *Maharashtra Sports: Know the state's sports culture*. Testbook. (n.d.).
<https://testbook.com/mpsc-preparation/maharashtra-sports>
12. CIDCO. (n.d.-b). <https://cidco.maharashtra.gov.in/pdf/RD/GHANSOLI.pdf>

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