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NEED FOR PLAY

SPORTS AND RECREATIONAL ACTIVITY HUB

By

RUPESH CHANDRAKANT NILVE

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SUBMITTED BY
RUPESH CHANDRAKANT NILVE

A REPORT

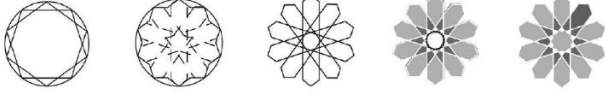
Submitted in partial fulfillment of the requirements for
the degree of Bachelor of Architecture.



University of Mumbai

2020-2021

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Name of the Student: **RUPESH C. NILVE**

Roll No: **15 AR 30**

Date: **12/12/2020**

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1. ABSTRACT

This research thesis is an attempt to explore the perspective of sports specifically physical activities and the way it can transform the concept of physical recreation and understanding the relationship between body movement, social interaction and cultural identity.

Does physical activities play an integral role in the growth and transformation of an individual ?

Can city pride and unity be interlinked as a means to enhance the development of a place ?

Can architecture help in reviving the interest of people living in an urban context for taking part in various physical activities ?

The aim of thesis proposal is to study the role of sports in an individual's life. The study will showcase the opportunities to promote social interaction, recreation and cultural identity in an urban city and its impact on social, cultural, financial and commercial aspects.

It leads towards the architectural intervention of a space where it'll provide a platform for the youth and professionals to learn, develop and participate in various competitions.

2. INDEX

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3.1 BACKGROUND STUDY

Humans are involved in sport activities since the beginning of time. Early sports were more a means of satisfying needs than the leisure and entertainment that it is today. Sports for early humans included activities such as running, spear throwing, archery and other similar activities that helped them hunt and gather food to sustain.

With that evolution came an increase in influence. Sports over the last hundred years has affected modern popular culture and has often reflected changing social attitudes and standards. Sports has also seen advances in techniques and achievements in records and levels that reflect the commitment by the people who played a particular sport.

Sports can be an important part of an individual's health, well-being and quality of life. There are different types of sports i.e. Outdoor and indoor sports and all the sports contribute to mental and physical fitness. It helps people to develop their personality and overall growth. Sports give opportunities to an individual to acquire life skills and to excel in them. Sports can provide healthy competition; promote constructive time use and positive social interactions.

Sports activities are an important source of socialization, communication and social integration being an ideal setting in forming young people and their further development. Social learning theory has shown that socialization is done best in sport activities. Physical benefits of sport are well known and very important, but the social part attracts youth in practicing a sport. They are happy that they can meet their friends and spend time with them outside school, and this is more important than knowing they are physically active. Social interaction through team sport teaches young people to: associate with their friends, solve and prevent conflicts, communicate and socialize better with their colleagues.

“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]

AIM:

- Studying and understanding the role of 'sports ' and its significance in the journey of life.

SCOPE AND OBJECTIVES:

- Categorising and analysing social role of sports in a developing society.
- Classifying and exploring different scale of physical activities and the nature of environment it responds to in an urban area.
- To ensure better performance of athletes through a space which will help in development of physical as well as mental attributes and could make up to various platforms.
- To create better opportunities which will help everyone learn, develop and perform on national and international platforms.
- Revive interest of people in playing various sports that have lost their identity from the society and help maintain the tradition and culture of sports.
- To attract the attention of various sectors and investors to invest in the development of sports platforms which will help in achieving city pride and unity.
- To help and give governments, communities and individuals the chance to express both exuberance and cultural pride.
- To introduce sports education to the youth for the all-round development of an individual which will help in shaping the future of sports in India.
- To reinforce youth empowerment, enhance intercultural dialogue and peace and to promote ethical sports practices to incorporate sportsmanship spirit among individuals.
- To attract fans who support different sports which will help in development of commercial and financial sector.

LIMITATIONS:

- The scope will be limited to urban level context.
- The research will mainly focus on the development and growth of an individual.
- There are different types of sports, this research will be limited to certain sports only.

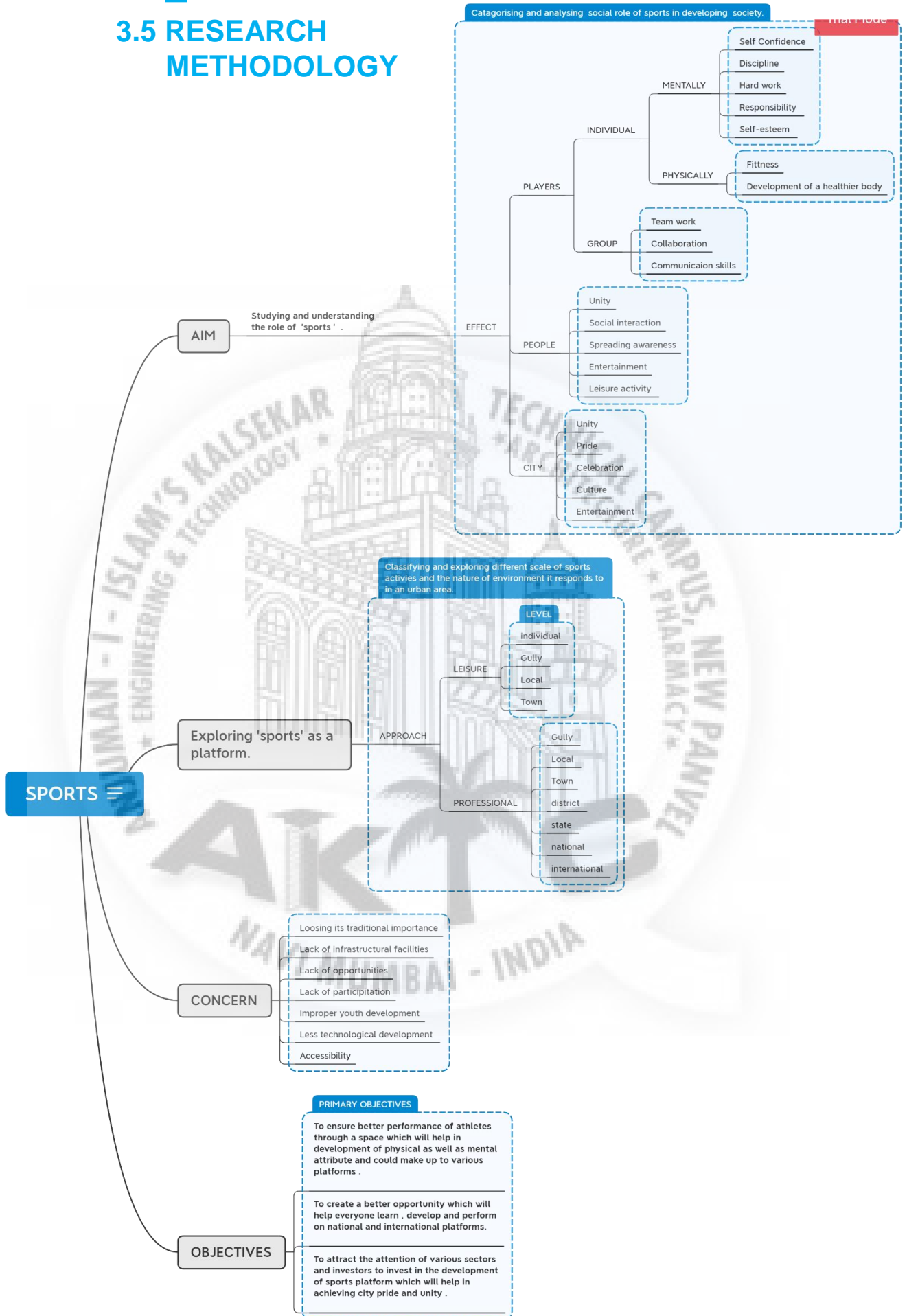
3.4 HYPOTHESIS

To a neighborhood, a Sports and recreational activity hub can be more than just a building, a place people could visit to spend leisure time or to perform certain physical activities in a formal or informal way. If conceived in an appropriate manner it can be an important place in a city. When a larger purpose is realized, people will actively participate in such activities and help in the overall growth of both an individual and the city.

Because sports bring people together and their ideas evolve, it influences the use and Activity of these spaces and helps in physical and mental development of an individual. A Sports and Recreational Activity space can enhance the Hub helping to create interactive spaces in practicing certain sports as well making various users remain socially active through social interaction.

A sports recreational activity hub need not be just a place to perform intensive physical activities but can also become a setting for informal sports activities, social interaction and spending leisure time, a place that invites people living in the neighborhood in it.

3.5 RESEARCH METHODOLOGY



4 CHAPTER 1



LITERATURE REVIEW

4.1 OVERVIEW

History of Sports:

Humans are involved in sport activities since the beginning of time. Early sports were more a means of satisfying needs than the leisure and entertainment that it is today. Sports for early humans included activities such as running, spear throwing, archery and other similar activities that helped them hunt and gather food to sustain.

Once humans started to form groups and communities, differences of opinions were settled by fighting, hence fighting came into the picture as a need to survive. As these communities and groups grew larger and turned to become kingdoms, weapons and armies came into picture.

Thus introducing sword fighting, horseback riding, hammer and spear throwing, etc. to the necessity of survival. The best hunter or the best fighter was then looked upon as a role model and people started wanting to be like him. So these champions started training people in the fighting technique they were skilled in, for e.g. The Knights took Squires and trained them in exchange for helping them out in work they felt was too petty for them.

The new era of Sports:

We have seen how Sport has evolved from a simple test of survival skills to training for battle, hunting and adulthood, then to an event celebrating skills, strength and endurance and finally, in recent decades, to a highly commercialized institution with questionable social value.

Sport has, in the past, occasionally been abused for the satisfaction of the lusts of the dominant class of society, however it has generally played a constructive role. Athletes, like writers and mystics, offer an example of the possibilities of what human beings could be physically, mentally and morally. Now sport must be liberated from the chains of materialism to regain its exalted position in the vanguard of human society. Sport showed us our potentiality for a perfect physique, acutely tuned mind, and united collective effort.

What is Sport ?

According to Australian commission (ASC).sport is a human activity capable of achieving a result requiring physical exertion and/or physical skill which by its nature and organization, is competitive and is generally accepted as being a sport.

List of sports and games and their fields :

Sport / Game	Field / Ground Name
Athletics	Track & Field
Badminton	Court
Baseball	Baseball field (Diamond)
Boxing	Ring
Basketball	Court
Cricket	Cricket field
Football	Football pitch / Football field
Golf	Course
Hockey	Field
Ice Hockey	Hockey rink or arena
Tennis	Tennis court
Kabaddi	Kabaddi court
Polo	Polo field or arena
Wrestling	Ring / Arena

Table 1.

Definitions and Descriptions :

- **Arena:** A place with a flat open area in the middle and seats around it where people can watch sports and entertainment
- **Athletic Center:** A facility or structure or space used for athletic events.
- **Gymnasium:** A room or building equipped for gymnastics, games and other physical exercise.
- **Leisure:** time that is spent doing what you enjoy when you are not working or studying
- **Recreation:** the fact of people doing things for enjoyment, when they are not working
- **Sports Complex:** a building where the public can go to play many different kinds of sports, swim, etc.
- **Sports:** activities performed for pleasure that need physical effort or skill, usually performed in a special area and according to certain rules and regulations.
- **Equestrian:** Sport activities related to horseback riding.
- **Stadium:** a large sports ground surrounded by rows of seats and usually other buildings
- **Ministry of Youth Affairs and Sports:** A branch in the Government of India, which administers The Department of Sports and The Department of Youth Affairs in India.
- **Sports Authority of India (SAI):** The apex national sports body of India, established in 1984 by the Ministry of Youth Affairs and Sports of Government of India for the development of sport in India

4.2 QUALITIES THAT IMPROVE THROUGH SPORTS :

- **Teamwork :**

Teamwork helps motivate participants to do their part , assisting the team to reach their ultimate goal. Teamwork also involves the commission of tasks . A good teamwork skill can help in effective leading of a group . A growth of team building skill is any workplace can have positive influence.



Fig 1.

- **Communication :**

Communication is the key in every walk of life . Playing sports helps people to develop the ability to work together effectively by communicating with each other and with opponent team sportsman.



Fig 2.

- **Discipline :**

Sports can teach discipline in a acceptable way while they participate in an activity they deeply enjoy . The discipline to learn the skills , to be punctual and preparation so they can improve their performance. Discipline can help excel the performance, and that can maximize their chance of success.

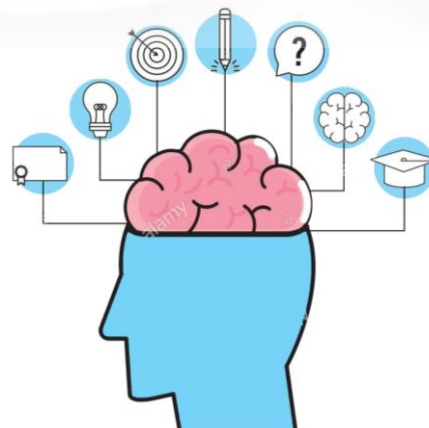


Fig 3.

- **Strategic Development :**

Teamwork and communication are not effective unless there is a strategy behind it . Sports and team activities give opportunities for participants to come up with a game plan and strategies to win .



Fig 4.

- **Decision Making :**

Playing sports help participants learn to make decisions by observing and interpreting information quickly . Playing sports helps a person develop the skills and behaviour necessary to succeed in a dynamic, global workspace.



Fig 5.

- **Overcoming Adversity And Dealing With Success / Failures :**

Life is not fair and much of it involves overcoming setbacks and other adversities . Sports encourages ones skills and potential and not their background or any obstacle that they came from . Sports is barrier free and can be practiced by everyone.



Fig 6.

4.3 PHYSICAL ACTIVITY ?

- Physical activity is any body movement that works your muscles and requires more energy than resting. Walking, running, dancing, swimming, yoga, and gardening are a few examples of physical activity. Exercise is a type of physical activity that's planned and structured. Lifting weights, taking an aerobics class, and playing on a sports team are examples of exercise. Popular ways to be active include walking, cycling, wheeling, sports, active recreation and play, and can be done at any level of skill and for enjoyment by everybody.

Physical activity is good for many parts of your body. This article focuses on the benefits of physical activity for your heart and lungs. The article also provides tips for getting started and staying active. Physical activity is one part of a heart-healthy lifestyle.

Types of Physical Activities ?

- The four main types of physical activity are aerobic, muscle strengthening, bone-strengthening, and stretching. Aerobic activity is the type that benefits your heart and lungs the most.

Aerobic Activity :

- Aerobic activity moves your large muscles, such as those in your arms and legs. Running, swimming, walking, bicycling, dancing, and doing jumping jacks are examples of aerobic activity. Aerobic activity also is called endurance activity.
- Aerobic activity makes your heart beat faster than usual. You also breathe harder during this type of activity. Over time, regular aerobic activity makes your heart and lungs stronger and able to work better.

Other Types of Physical Activity :

- The other types of physical activity—muscle-strengthening, bone strengthening, and stretching—benefit your body in other ways.
- Muscle-strengthening activities improve the strength, power, and endurance of your muscles. Doing pushups and situps, lifting weights, climbing stairs, and digging in the garden are examples of muscle-strengthening activities.
- With bone-strengthening activities, your feet, legs, or arms support your body's weight, and your muscles push against your bones. This helps make your bones strong. Running, walking, jumping rope, and lifting weights are examples of bone-strengthening activities.
- Muscle-strengthening and bone-strengthening activities also can be aerobic, depending on whether they make your heart and lungs work harder than usual. For example, running is both an aerobic activity and a bone-strengthening activity.

- Stretching helps improve your flexibility and your ability to fully move your joints. Touching your toes, doing side stretches, and doing yoga exercises are examples of stretching.

Levels of Intensity in Aerobic Activity :

- You can do aerobic activity with light, moderate, or vigorous intensity. Moderate- and vigorous-intensity aerobic activities are better for your heart than light-intensity activities. However, even light-intensity activities are better than no activity at all.
- The level of intensity depends on how hard you have to work to do the activity. To do the same activity, people who are less fit usually have to work harder than people who are more fit. So, for example, what is light-intensity activity for one person may be moderate-intensity for another.

Light- and moderate-intensity activities :

- Light-intensity activities are common daily activities that don't require much effort.
- Moderate-intensity activities make your heart, lungs, and muscles work harder than light-intensity activities do.
- On a scale of 0 to 10, moderate-intensity activity is a 5 or 6 and produces noticeable increases in breathing and heart rate. A person doing moderate-intensity activity can talk but not sing.

Vigorous-intensity activities :

- Vigorous-intensity activities make your heart, lungs, and muscles work hard. On a scale of 0 to 10, vigorous-intensity activity is a 7 or 8. A person doing vigorous-intensity activity can't say more than a few words without stopping for a breath.

Examples of Aerobic Activities :

- Below are examples of aerobic activities. Depending on your level of fitness, they can be light, moderate, or vigorous in intensity:
- Pushing a grocery cart around a store
- Gardening, such as digging that causes your heart rate to go up
- Walking, hiking, jogging, running
- Water aerobics or swimming laps
- Bicycling, skateboarding, rollerblading, and jumping rope
- Ballroom dancing and aerobic dancing
- Tennis, soccer, hockey, and basketball

How much of Physical Activity is recommended ?

In a 24-hour day, children 1-2 years of age should:

- Spend at least 180 minutes in a variety of types of physical activities at any intensity, including moderate- to vigorous-intensity physical activity, spread throughout the day; more is better; not be restrained for more than 1 hour at a time (e.g., prams/strollers, high chairs, or strapped on a caregiver's back) or sit for extended periods of time.
- For 1 year olds, sedentary screen time (such as watching TV or videos, playing computer games) is not recommended.
- For those aged 2 years, sedentary screen time should be no more than 1 hour; less is better.
- When sedentary, engaging in reading and storytelling with a caregiver is encouraged and have 11-14h of good quality sleep, including naps, with regular sleep and wake-up times.

In a 24-hour day, children 3-4 years of age should:

- Spend at least 180 minutes in a variety of types of physical activities at any intensity, of which at least 60 minutes is moderate- to vigorous-intensity physical activity, spread throughout the day; more is better;
- Not be restrained for more than 1 hour at a time (e.g., prams/strollers) or sit for extended periods of time.
- Sedentary screen time should be no more than 1 hour; less is better.
- When sedentary, engaging in reading and storytelling with a caregiver is; and have 10-13h of good quality sleep, which may include a nap, with regular sleep and wake-up times.

Children and adolescents aged 5-17 years :

- Should do at least an average of 60 minutes per day of moderate-to-vigorous intensity, mostly aerobic, physical activity, across the week.
- Should incorporate vigorous-intensity aerobic activities, as well as those that strengthen muscle and bone, at least 3 days a week.
- Should limit the amount of time spent being sedentary, particularly the amount of recreational screen time.

Adults aged 18–64 years

- Should do at least 150–300 minutes of moderate-intensity aerobic physical activity; or at least 75–150 minutes of vigorous-intensity aerobic physical activity; or an equivalent combination of moderate- and vigorous-intensity activity throughout the week.
- Should also do muscle-strengthening activities at moderate or greater intensity that involve all major muscle groups on 2 or more days a week, as these provide additional health benefits.
- May increase moderate-intensity aerobic physical activity to more than 300 minutes; or do more than 150 minutes of vigorous-intensity aerobic physical activity; or an equivalent combination of moderate- and vigorous-intensity activity throughout the week for additional health benefits.
- Should limit the amount of time spent being sedentary. Replacing sedentary time with physical activity of any intensity (including light intensity) provides health benefits, and to help reduce the detrimental effects of high levels of sedentary behaviour on health, all adults and older adults should aim to do more than the recommended levels of moderate- to vigorous-intensity physical activity

Adults aged 65 years and above :

- Same as for adults; and as part of their weekly physical activity, older adults should do varied multicomponent physical activity that emphasizes functional balance and strength training at moderate or greater intensity, on 3 or more days a week, to enhance functional capacity and to prevent falls.

Pregnant and postpartum women :

All pregnant and postpartum women without contraindication should:

- Do at least 150 minutes of moderate-intensity aerobic physical activity throughout the week
- Incorporate a variety of aerobic and muscle-strengthening activities should limit the amount of time spent being sedentary. Replacing sedentary time with physical activity of any intensity (including light intensity) provides health benefits.

How to increase Physical Activity ?

- Countries and communities must take action to provide everyone with more opportunities to be active, in order to increase physical activity. This requires a collective effort, both national and local, across different sectors and disciplines to implement policy and solutions appropriate to a country's cultural and social environment to promote, enable and encourage physical activity.

Policies to increase physical activity aim to ensure that:

- Walking, cycling and other forms of active non-motorized forms of transport are accessible and safe for all.
- Labour and workplace policies encourage active commuting and opportunities for being physically active during the work day.
- Childcare, schools and higher education institutions provide supportive and safe spaces and facilities for all students to spend their free time actively.
- Primary and secondary schools provide quality physical education that supports children to develop behaviour patterns that will keep them physically active throughout their lives.
- Community-based and school-sport programmes provide appropriate opportunities for all ages and abilities.
- Sports and recreation facilities provide opportunities for everyone to access and participate in a variety of different sports, dance, exercise and active recreation.
- Health care providers advise and support patients to be regularly active.

4.4 REPORT

THE 2018 INDIA REPORT CARD ON PHYSICAL ACTIVITY FOR CHILDREN & YOUTH:

The Republic of India, with 29 states and 7 union territories, is the seventh-largest country by area and the second largest country by population, which makes it the most-populous democracy in the world.^{1,2} According to the most recent 2011 Census data, India's population was 1,210,193,422 as of March 1, 2011. India is also a country of incredible geographic and cultural diversity. Physical activity is associated with numerous health benefits, and research has shown that regular moderate to vigorous physical activity (MVPA) reduces the risk of various health issues. While there are clear benefits associated with physical activity, evidence indicates a physical inactivity epidemic among children and youth in India, as the majority of this population does not meet physical activity guidelines.

A lack of upstream active living policies, family and peer support, and built environment conducive to active transportation, have contributed to physical inactivity among Indian Children.¹²⁻¹⁴ The 2016 India Report Card demonstrates that almost half of children and youth in India do not meet recommended guidelines for physical activity and sedentary behaviour.¹² Moreover, the 2016 India Report Card identified several gaps in evidence, including lack of nationally representative data on active living and contextual indicators such as “Active Play” and “Family and Peers.” With India's youth projected to be a major proportion of the world's workforce,^{15,16} evaluating active living in India has implications for the world economy.

GRADE	BENCHMARK	DEFINITION
A+	94 - 100%	We are succeeding with a large majority of children and youth.
A	87 - 93%	
A-	80 - 86%	
B+	74 - 79%	We are succeeding with well over half of children and youth
B	67 - 73%	
B-	60 - 66%	
C+	54 - 59%	We are succeeding with about half of children and youth.
C	47 - 53%	
C-	40 - 46%	
D+	34 - 39%	We are succeeding with less than half, but some, children and youth
D	27 - 33%	
D-	20 - 26%	
F	<20%	We are succeeding with very few children and youth.
INC	Incomplete—insufficient or inadequate information to assign a grade.	

Table 2.

SUMMARY OF REPORT CARD INDICATORS AND GRADES :

The 2018 India Report Card Research Working Group (RWG) was comprised of seven experts in physical activity, child health, and health policy from five universities and institutions. The RWG appraised 10 previously developed core indicators of physical activity (Overall Physical Activity, Organized Sport Participation, Active Play, Active Transportation, Sedentary Behaviour, Physical Fitness, Family and Peers, School, Community and the Built Environment, Government Strategies, Policies and Investments). Yoga was added as a new indicator specific to India.












INDICATOR	GRADE
 Overall Physical Activity The proportion of children and youth who meet physical activity guidelines.	D
 Organized Sport Participation The proportion of children and youth who participate in organized sport and/or physical activity programs.	INC
 Active Play The proportion of children and youth who engage in unstructured or unorganized active play at any intensity for more than 2 hours per day. The proportion of children and youth who report being outdoors for more than 2 hours per day.	C-
 Active Transportation The proportion of children and youth who walk or bike to different destinations (eg. home, school).	B-
 Sedentary Behaviour The proportion of children and youth who meet sedentary behaviour or screen-time guidelines.	C-
 Family and Peers The proportion of parents who facilitate physical activity and sport opportunities for children, meet physical activity guidelines for adults, and are physically active with their children. The proportion of children and youth with friends or peers who encourage and support them to be physically active.	D
 School – Infrastructure, Policies and Programs The proportion of schools with active school policies, daily physical activity and recess; providing access to physical activity opportunities at school in addition to physical education (PE) (e.g. outdoor time); providing regular access to facilities and equipment which support physical activity (i.e., gymnasium, playgrounds, sporting fields, bike racks, etc.). The proportion of schools where the majority (≥ 80%) of students are taught by a PE specialist and students are offered the mandated amount of PE (for the given state/territory/region/country).	INC
 Community and the Built Environment The proportion of children, youth, or parents who perceive their community as supportive for physical activity. The proportion of communities reporting physical activity policies and infrastructure (e.g. sidewalks, trails, bike lanes). The proportion of children and youth who report being outdoors for several hours daily, and reporting well-maintained facilities, parks, and playgrounds which are also safe.	D
 Government – Strategies, Policies and Investments Demonstrated leadership, investments, and evidence of implementation of physical activity strategies targeting children and youth (e.g. policy agenda, policy formation, policy implementation, policy evaluation and decisions about the future).	D
 Physical Fitness The proportion of children and youth performing well in several fitness tests and exercise regimens meant to test physical fitness, including: cardio respiratory endurance, muscular strength, muscular endurance, flexibility, explosive strength, and body composition.	F
 Yoga The proportion of children and youth who practice yoga daily.	INC

Table 3.



OVERALL PHYSICAL ACTIVITY

The proportion of children and youth accumulating 60 minutes or more of moderate-to vigorous physical activity daily.

WHY IS OVERALL PHYSICAL ACTIVITY IMPORTANT?

Habits and behaviours developed in childhood persist into adulthood, thus children and youth who are active are more likely to become active adults. Regular physical activity can reduce the risk of numerous illnesses such as cardiovascular diseases, metabolic syndrome, colon and breast cancer, and depression. Physical activity can also help control weight, improve mood, and increase life expectancy.



ORGANIZED SPORT PARTICIPATION

The proportion of children and youth involved in any organized sports programming provided through schools or communities.

WHY DOES ORGANIZED SPORT PARTICIPATION MATTER?

For many children and youth, organized sport participation is a fun way to be physically active with peers. While not all families may be able to afford extracurricular organized sports activities, programs offered through schools are more accessible to children and youth, and therefore an important part of overall physical activity accumulation.



ACTIVE PLAY

The proportion of children and youth engaged in unstructured, unorganized active play for several hours per day.

WHY IS ACTIVE PLAY IMPORTANT AMONG CHILDREN?

Active play is an important contributor to overall physical activity, especially among young children. Many children who do not participate in organized sports or structured activities, particularly infants and preschool aged children, may engage in active play as their primary form of activity. Research also suggests that children accumulate up to 50% more MVPA during unstructured play than they do during organized physical activities. For many young children, active play may be the primary form of physical activity accumulation. Unlike structured activities, active play encourages creativity, independence and social behaviour. It also improves one's ability for conflict resolution, problem solving, and motor skills—aspects that are important to children's social, emotional, and cognitive development.



ACTIVE TRANSPORTATION

The proportion of children and youth who walk or bike to different destinations (e.g. home, school, park).

WHY SHOULD WE FACILITATE ACTIVE TRANSPORTATION IN CHILDREN AND YOUTH?

Current evidence indicates that children and youth who use active transportation accumulate more physical activity and have better health outcomes in comparison with those who are passive during transportation (e.g. car/bus travel). Moreover, the benefits of active transportation extend beyond physical health as it increases social interaction, reduces road congestion, saves money on gas and parking, and more importantly, can contribute towards reduction in greenhouse gas emissions.



FAMILY AND PEERS

The proportion of parents who facilitate physical activity and sport opportunities for children, meet physical activity guidelines for adults, and are physically active with their children. The proportion of children and youth with friends or peers who encourage and support them to be physically active.

WHY ARE FAMILY AND PEERS IMPORTANT FOR PHYSICAL ACTIVITY?

Research has shown that family, particularly parents, have a large influence on children's physical activity. Children of physically active parents are more likely to be physically active themselves.⁵⁴⁻⁵⁷ Sibling physical activity has also been shown to be related to child and youth activity levels.



SCHOOL - INFRASTRUCTURE, POLICIES AND PROGRAMS

The proportion of schools implementing active school policies, providing opportunities to be physically active at school, and enabling access to necessary facilities and equipment to support physical activity.

HOW DO SCHOOLS CONTRIBUTE TO PHYSICAL ACTIVITY?

Schools are a critical venue for the accumulation of physical activity as children and youth spend a substantial amount of their waking hours at school. Schools can provide equipment and space to be physically active, as well as necessary programming and education to instill the importance of physical activity for overall health and fitness.



SEDENTARY BEHAVIOUR

The proportion of children and youth who meet screen-time-based sedentary behaviour guidelines.

WHY SHOULD WE ENCOURAGE CHILDREN AND YOUTH TO BE LESS SEDENTARY?

Children can be highly active and highly sedentary on the same day! Irrespective of the amount of physical activity children accumulate, they could still spend a lot of time in sedentary pursuits such as watching television. Taking this observation into consideration is important, because increasingly, evidence suggests that independent of physical activity levels, sedentary behaviours are associated with increased risk of both physiological and psychological problems.⁵⁰ Watching television for more than 2 hours per day has been associated with unhealthy body composition, decreased fitness, low self-esteem, and decreased academic achievement. Fortunately, evidence also suggests that decreasing any type of sedentary behaviour is associated with lower health risk in children and youth. Moreover, with evidence now emerging that sedentary behaviour embedded in childhood can continue through adolescence into adulthood, it is imperative to focus on curbing sedentary behaviour in children and youth.



COMMUNITY AND BUILT ENVIRONMENT

The proportion of children or parents who perceive that their community/ municipality is doing a good job promoting physical activity. The proportion of communities/ municipalities that report they have policies and infrastructure (e.g., sidewalks, trails, paths, bike lanes) specifically geared toward promoting physical activity.

WHY SHOULD WE FOCUS ON THE BUILT ENVIRONMENT?

Evidence indicates that safety, access to recreational facilities and opportunities for active transportation increase physical activity levels in children and youth. Recent evidence has revealed a more complex picture, where multilevel environmental determinants (urban design, neighbourhood built and social environment, school and home environment) have been shown to influence physical activity in children and youth. In terms of urban design, it has been shown that more than one type of design can facilitate active living.



GOVERNMENT

Demonstrated leadership, investments, and evidence of implementation of physical activity strategies targeting children and youth.

WHAT IS THE ROLE OF GOVERNMENT POLICIES, STRATEGIES AND INVESTMENTS?

Government policies, strategies and investments play a critical role of setting a multi-jurisdictional (i.e., national, state, municipal) agenda that drives policies and programs at different levels of implementation, such as schools, built environment and urban design, and family, peers and educators (e.g. through awareness and education campaigns). Government also has a role to play in resource allocation towards active living research to address the lack of evidence, and towards evidence-based active living interventions to facilitate physical activity and discourage sedentary behaviour.



PHYSICAL FITNESS

The proportion of children and youth that exhibit good performance on given physical tasks in a specified physical, social and psychological environment. This includes, but is not limited to, cardiorespiratory endurance, muscular strength, muscular endurance, flexibility, and explosive strength.

WHY DOES PHYSICAL FITNESS MATTER?

Physical fitness provides an indication of a child's physical capabilities. Routine tests allow educators and parents to monitor physical fitness over time. Overall, physical fitness serves as a proxy measure for health status (e.g. cardiovascular health).



YOGA

The proportion of children and youth who practice yoga daily.

WHY SHOULD WE ENCOURAGE CHILDREN AND YOUTH TO DO YOGA?

The ancient practice of Yoga has been a part of life in India over the past 2500 years. The combination of physical, mental, and spiritual aspects of the practice make it imperative to include yoga as part of a key indicator of physical activity and fitness in India, especially due to its cultural implications. Moreover, with the physical practice of yoga becoming popular in the west, it is time to recognize this practice as a way to improve physical activity and fitness among children.⁸⁵ Current evidence indicates a positive relationship between yoga practice, cognitive abilities, and mental health among Indian children and youth.⁸⁶⁻⁸⁸ More importantly, growing evidence from across the globe suggests that yoga within school curricula may be an effective avenue to help students develop self-regulation and physical fitness.

Article 1

India ranks 8th in WHO study on physical activity among adolescents:

Source: <https://indianexpress.com/article/india/who-india-physical-activity-report-6131100/>

LACK OF PHYSICAL ACTIVITY AMONG YOUTH WIDESPREAD

Urgent action is needed to increase physical activity levels in girls and boys aged 11 to 17 years, says a study published in The Lancet Child & Adolescent Health journal and produced by researchers from the WHO

- 80% of school-going adolescents globally do not meet current recommendations of at least one hour of physical activity per day
- Across all 146 countries studied between 2001-2016 girls were less active than boys in all but four (Tonga, Samoa, Afghanistan and Zambia)
- Insufficient physical activity in adolescents continue to be extremely high, compromising their current and future health
- WHO recommends for adolescents to do moderate or vigorous physical activity for an hour or more each day.
- Some of the lowest levels of insufficient activity in boys were found in India, Bangladesh and the US.
- In India, 72% of boys were insufficiently active in 2016.
- For girls, the lowest levels of insufficient activity were seen in Bangladesh and India.

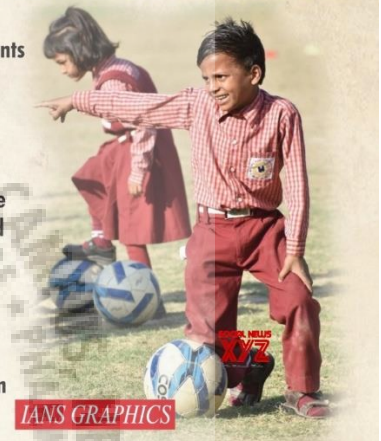


Fig 7.

New Delhi, November 22 (IANS) While physical inactivity among children aged 11 to 17 is widespread, Indian kids still fare better than the global average, according to a WHO study.

The research, published in the journal The Lancet Child & Adolescent Health, showed that 80 per cent of school-going adolescents globally did not meet current recommendations of at least one hour of physical activity per day -- including 85 per cent of girls and 78 per cent of boys.

But compared to the global average, the level of physical inactivity was found to be lower in countries like India and Bangladesh.

While 72 per cent of boys in India were found to be insufficiently active in 2016, 63 per cent boys were insufficiently active in Bangladesh.

At 64 per cent, the boys in the US fared even better than those in India and Bangladesh.

For girls too, the lowest levels of insufficient activity were seen in Bangladesh and India, and are potentially explained by societal factors, such as increased domestic chores in the home for girls.

Lower level of insufficient activity among boys in India may be explained by the strong focus on national sports like cricket, said the study.

The study, based on data reported by 1.6 million 11 to 17-year-old students, found that across all 146 countries studied between 2001-2016 girls were less active than boys in all but four (Tonga, Samoa, Afghanistan and Zambia).

The authors said that levels of insufficient physical activity in adolescents continue to be extremely high, compromising their current and future health.

"Urgent policy action to increase physical activity is needed now, particularly to promote and retain girls' participation in physical activity," said study author Regina Guthold from WHO.

The health benefits of a physically active lifestyle during adolescence include improved cardiorespiratory and muscular fitness, bone and cardiometabolic health, and positive effects on weight.

There is also growing evidence that physical activity has a positive impact on cognitive development and socialising. Current evidences suggest that many of these benefits continue into adulthood.

To achieve these benefits, the WHO recommends for adolescents to do moderate or vigorous physical activity for an hour or more each day.

Inference:

The World Health Organization on November 22, 2019 published its study about physical activity of adolescents aged between 11 and 17 years. The study was conducted across 146 countries with the help of data from 298 school-based surveys. The assessment included physical education, active play, recreation and sports, walking, planned exercises and cycling.

India was ranked eighth reporting lowest level of physical activity. Though, India was one of the top performers around 74% of adolescents showed insufficient physical activity.

In India the overall insufficient physical activity in 2001 was 76.6% and has now decreased to 73.9% in 2016. The improvements in India can very be linked with recent initiatives of the government towards physical health. It includes Fit India Movement, plogging, a separate ministry for Sports, adopting yoga, etc.

Article 2

Results from the 2018 India Report Card on Physical Activity for Children and Youth:

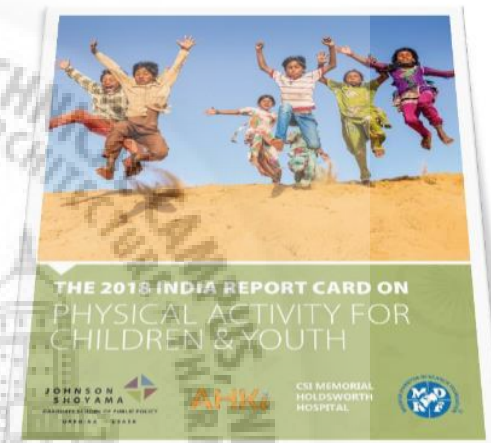
<https://journals.humankinetics.com/view/journals/jpah/15/s2/article-pS373.xml>

Results from the 2018 India Report Card on Physical Activity for Children and Youth

Jasmin Bhawra, MSc, PhD(c); Priyanka Chopra, BDS; H. Ranjani, PhD; Ghattu V Krishnaveni, PhD, MBBS; R.M. Anjana, MD, MBBS; Kalyanaraman Kumaran, DM, MSc, MBBS; Tarun R Katapally, PhD, MS, MBBS

Background and Purpose:

- Research indicates that almost half of Indian children and youth do not meet recommended guidelines for physical activity and sedentary behaviour.
- The 2016 India Report Card found that a lack of upstream active living policies, family and peer support, and built environment conducive to active transportation, have contributed to physical inactivity among Indian children.
- With India's youth projected to be a major proportion of the world's workforce, measurement and evaluation of active living in India has implications for the world economy.
- The 2018 Report Card addresses evidence gaps identified in 2016 using peer-reviewed and grey literature, as well as primary data obtained through key partners.



Inference:

Research demonstrates that almost half of children and youth in India do not meet recommended guidelines for physical activity and sedentary behavior. The 2016 India Report Card identified several gaps in evidence, including nationally representative data on active living and contextual indicators such as “Active Play” and “Family and Peers.” With India's youth projected to be a major proportion of the world's workforce, evaluating active living in India has implications for the world economy. The 2018 Report Card addresses evidence gaps identified in 2016 using peer-reviewed and grey literature, as well as primary data obtained through key partners.

Results and Discussion:

Based on the grades assigned the active living, challenges faced by Indian children and youth could be attributed to lack of adequate political, social, and physical environmental support. *Active Healthy Kids India* has been established to obtain nationally representative data, and advocate for investments.

Indicators	Grades
Overall Physical Activity	D
Organized Sport Participation	INC
Active Play	C-
Active Transportation	B-
Sedentary Behaviour	C-
Family and Peers	D
School - Infrastructure, Policies and Programs	INC
Community and the Built Environment	D
Government -Strategies, Policies and Investments	D
Physical Fitness	F
Yoga	INC

Recommendations for Action

- Investments in active living research and policy.** This includes the involvement of multiple sectors (e.g. health, education, transportation) to develop a funding agenda for policy implementation.
- National strategy for physical activity for children and youth.** Development of a national strategy would make physical activity a priority among schools, communities, cities, and states, and further guide investments, policies and programs.
- Minimizing gender-based inequities.** National and local policies/programs need to encourage equal participation from girls in physical activity.
- Physical activity education and promotion campaigns to educate policymakers, educators, families, and children and youth.** Targeted physical activity campaigns will help educate the public about the benefits of physical activity.
- Adoption of active living policies in urban planning and development.** Evidence-based local urban planning policy is critical to facilitate active living and minimize existing barriers.

Conclusion:

While the vast majority of Indian children and youth are not accumulating recommended levels of physical activity, there are encouraging signs of their participation in active transportation and active play a phenomenon that needs to be explored further to facilitate more physical activity.



INDICATORS	GRADES	RATIONALE
Overall Physical Activity	D	Approximately 25% of children and youth accumulate ≥ 60 minutes of MVPA daily. It is expected that children and youth from rural areas accumulate greater MVPA, however data from these populations is sparse and difficult to align with MVPA guidelines.
Organized Sport Participation	INC	Insufficient data to grade this indicator.
Active Play	C-	An average of 49% of children and youth spend at least 1 hour playing outdoors per day, and 37% spend at least 1 hour in active play per day.
Active Transportation	B-	A weighted average of approximately 65% of children and youth reported walking or cycling to school on a regular basis.
Sedentary Behaviours	C-	Less than half of Indian children and youth are meeting screen time-based sedentary behaviour guidelines (<2 hours/day).
Physical Fitness	F	Approximately 15% of children and youth meet recommended standards for minimum fitness.
Family and Peers	D	Approximately 30% of family/peers participate in physical activity with children and provide support/transport/access to physical activities.
Schools	INC	Insufficient data to grade this indicator.
Community and Built Environment	D	Six major Indian cities received low walkability ratings due to poor and unsafe infrastructure, and lack of sidewalks. Moreover, built environment was rated poorly for lack of urban infrastructure for walking and biking, access to physical activity spaces, safety from crime and traffic, and high pollution.
Government	D	The majority of government strategies in India are focused on competitive sport. There is no readily available evidence of strategies and investments directed towards all children and youth, with a purpose to increase active living among the entire population.

Table 4.

Article 3

India : Emerging as a multi-sporting country!

Source : <https://www.iismworld.com/india-emerging-as-a-multi-sporting-country/>

The sports section has been somewhat dreary in India for some time now save for cricket and the recent upsurge in football leagues. The news pertaining to Kabaddi, Hockey, and Olympics has gone somewhat unnoticed – but no longer! India is no longer just a cricket nation and the sports business is starting to expand along several dimensions totaling to over a billion US dollars growing at 35-40% year over year.

With the advent of private organizations taking some definite interest in the sports industry either through sports sponsorship programs, there has been a definite upheaval in the industry as a whole.

There is lots to be said about the business in sports and the fact that the IPL generated 480 million euros in just the last year from Twenty20 Cricket and the ISL is estimated to exceed INR 400 crores in advertisements and sponsorships alone.



It is not all about money, though, as the rise in revenue streams have encouraged the setting up of more boxing arenas and rings. Sports marketing is also at a record-breaking high in India which means better exposure, better facilities, and better performance from our athletes in every sport. India exported sports goods in 2013-14 worth around 256 million dollars (US) growing about 19% annually to 24,383.97 million dollars in 2018.

In recent news, India saw its Olympians bringing glory to the country in wrestling (Sakshi Malik – bronze medal) and badminton (P.V. Sindhu – silver medal).

Not only is this a huge leap from the predominantly patriarchal nature of sports in India, but an inspiration to women all around the world.

This has also led to lots of excitement in the management & business arena of sports. Having better management ensures better headlines, which in turn, ensures more funding for Indian athletes.

The Ministry of Sports and Youth Affairs is focusing on the Ministry of Statistics and Program Implementation (MSPI) and the MP Area Development Fund (MPLAD). Specifically, MPs in India will be able to allocate more funds towards the erection of multipurpose halls, hockey turfs, soccer fields, and athletic tracks. Under the Urban Sports Infrastructure Scheme or USIS, a whopping windfall of roughly six crore rupees will be allotted towards the same.

It was high time for India to start taking sports seriously and not just as fun and games.

It was also time to shed the stereotype that the only sport that India is ever going to feature for is cricket. Careers in sports are finally being given the due consideration that they deserve and athletes are finally receiving support, not just from their friends and family, but from the entire general populous and the Government alike.

With so many sports enthusiasts in the country, sports marketing is also bound to succeed and thrive, as is a career in the same. In a land of such immense diversity, with so many castes, creeds, religions, and cultural differences, it is comforting to know that a pump of adrenaline in someone else on the field can unite so many people.

Indeed, people may have different sporting preferences, but the bottom line is that there is no doubt that a sport, any sport, can enthuse so many.

The present level of India's interest in sporting events as well as India's performance in sports is not what it used to be – it has improved for the better. It is only to be expected that things can only keep spiraling upwards from here onwards. Sports opportunities in India are now presenting themselves in spades for athletes and non-athletes alike. It time to showcase India's prowess to grow as a superpower in sports.



Fig 8.

Inference:

The sports industry is growing very rapidly in India. In the past decade as we have seen a lot as importance was given to cricket and the people were not involved in other sports. Cricket as a sport is no longer dominating this field and a lot of other sports are expanding in India. People are enthusiastic in playing various other sports and are improving their skills in these activities. A lot of opportunities are arising now for athletes and non-athletes to showcase their skills in national and international platforms. With better sports opportunities arising due to sponsorships, the Government of India has also started taking better care of its own end in the sports industry. The best part is that there are now talks of several endowments by both Centre and State to ensure that the business in sports continues to boom.

Article 4

“Beyond books “:

<https://www.toehold.in/blog/times-india-children-physical-activity/>



Fig 9.

“Taking up a sport or any physical activity not only makes children fit but also develops many other socio-cultural traits required in life,” writes The Times of India’s Purnima Goswami Sharma.

It’s a well-known fact that our education system emphasizes more on academics and less on physical education and outdoor activities. In such a scenario, a school’s role becomes important in making children understand the importance of exercise and fitness as regular physical activity is like preventive medicine and it should be part of one’s lifestyle.

Today, childhood obesity is a problem; and addiction to gadgets has certainly contributed to obesity and a host of other health issues in kids. “Unfortunately, children grow up with a lot of emphasis on intellectual development and not enough on physical and overall development.

As a result, they end up paying in terms of health problems, weaknesses, and lack of performance in the sports arena. One needs to understand that a physically active lifestyle is not an option, it’s absolutely necessary for the overall development of a child,” says Jayanth Sharma, an accomplished wildlife photographer and co-founder and CEO of a company which conducts camps for children and adults. It’s been well-established that physical exercise releases positive hormones and keeps the mind healthy. Also, team games build social skills and strategic thinking. “Schools should emphasise on physical education and regular participation in sports activities.

Besides nurturing the habit of being active physically, play time is a wonderful way for an impressionable child to learn the deeper lessons of life that become so critical later in life issues like how to handle expectations, cope with failure, compete hard but fairly, to take any result in one’s stride, to cooperate and yet be competitive – these are things that cannot be taught in theory in a classroom,” adds Sharma. Echoing similar views, Pinky Dalal, well-known educationist, says, “The importance of outdoor play time and the substantive effect it has on a child during the early years cannot be overstated. Outdoor activities help in development of their gross and fine motor skills, allow them to explore and develop their imagination and build lasting relationships. Sports, physical education and athletics should be crucial part of the curriculum planning at a school level.”

Schools must have compulsory period where children could get a chance to play the game of their choice. They must have proper playgrounds and courts, required infrastructure and trained coaches as well. Encouraging these activities will enable learners to develop an interest and find their passion and they can continue to pursue that sport later in their lives too. There is an urgent need for schools to recognise and accept this and incorporate physical activity in the core curriculum and not as an after thought extra-curricular supplement.

An academic culture that promotes a holistic approach to growth and development is the key to bring in transformation.

Being active makes children concentrate better, be happy imbibe life skills in addition to increased blood circulation, muscle development and so on. "Playing sports is also a great way to make the children aware of themselves, their emotions and their reactions when faced with different situations. They evolve into agile thinkers, situational leaders and problem solvers," adds Dalal. Ankita Sanyal, who appeared for her class 10 Board exams recently, says, "I have been very active in various school sport activities as we have good facilities. Even when preparing for exams, it helped me to de-stress and relax and also concentrate better. I went for cycling or played badminton daily or simply did skating on my building terrace for 45 minutes."

Outdoor time, be it being on the sports ground or being amidst nature, helps children discover the many wonders of the world in a completely organic way.

Spending time outdoors they develop a close association with nature and become aware of the environment and are sensitive to different life forms around them. It also equips them with the ability to live in harmony with the world around them and become well-informed and responsible citizens.

This article has appeared on the 15 April 2018 edition of *The Times of India*.

Inference:

Looking at the education system it is focused towards academics and less importance is given to the physical activities. As these activities act as a stress-buster and also help in the development of a person.

It is very important to make the youth understand the importance of physical education and the activities related to it and it'll help them develop physically and mentally. These activities help in building social skills and strategic thinking.

Participating in different activities will make children socially interact with each other and understand new things. It'll help them learn, develop and grow. Also, taking part in physical activities will make them aware of themselves, their emotions and their reactions when they face different situations.

Article 5

Sports in India: Problems and reform measures

<https://www.jagranjosh.com/current-affairs/sports-in-india-problems-and-reform-measures-1508848667-1>

Reasons behind underdevelopment of sports in India are :

- **Corruption & Mismanagement of sports authorities:**
Corruption has become synonymous with sports administration in India. Whether it is the most popular cricket or hockey or weightlifting, most of the sports authorities in India have come under attack due to corruption charges. Besides, the involvement of politicians in the administration of sports bodies for a very long period and controversies surrounding 2010 Commonwealth Games dented the image of sports administrators in India.
- **Social and economic inequalities:**
Social and economic inequalities have a negative impact on the Indian sport. Denial of access to sports infrastructure due to poverty, concentration of stadiums and other sports avenues only in cities, lack of encouragement to girls to participate in sports etc, have impaired the development of a positive sports culture in the country.
- **Lack of infrastructure:**
This is one of the most important factors for the apathy of the sport in India. Since infrastructure is necessary for training and organizing games, its non-availability and its access to only a few sections of the society have adversely impacted the sport participation and the quality of sports persons. Lack of facilities at the grass root level is a major problem. Schools and colleges lack basic infrastructure that can encourage other sports, so even if someone has a natural talent in a particular sport, it gets crushed at the school level itself. The concept of school sports or college sports is still not seen as an option in India's education system.
- **Policy lacunae:**
For the development of any sector, formulation and execution of an effective policy is a sine qua non. This is true for sports also. Till date, the sports policy planning and implementation is centralized in the country due to the paucity of resources and the expertise by the State and local governments. Moreover, the absence of a separate ministry of sports at the union level reflects the apathy towards sports.
- **Meagre allocation of resources:**
Compared to other developed and developing countries, allocation of financial resources is meager in India. In the Union Budget 2017-18, Rs 1943 crore allocated for sports. While it is Rs 450 crore higher than the previous year, it is much below than the around Rs 9000 crore spent annually by the UK for the sports sector.

To remedy the situation, the union government has taken a number of initiatives in recent years. Some of them are :

- In September 2017, the Union Cabinet approved the revamped Khelo India programme at a cost of Rs.1,756 crore for the period 2017-18 to 2019-20. The programme aims at mainstreaming sport as a tool for individual development, community development, economic development and national development. The revamped Khelo India Programme would impact the entire sports ecosystem, including infrastructure, community sports, talent identification, coaching for excellence, competition structure and sports economy.
- In March 2017, 12 Indian players of international eminence were appointed by the government as National Observers for the first time for the development of various sports in the country. Among other responsibilities, they assess the existing sports infrastructure/equipment, quality of scientific backup and medical facilities at the venues of the national coaching camps and report the critical gaps.
- Under the scheme of “Assistance to National Sports Federations”, the government has been providing financial assistance to the recognized National Sports Federations (NSFs) for supporting girls/women’s exposure, training and participation at national/ international level.
- In order to provide best possible help and support to athletes in their training for the upcoming 2020 Olympics, the government approved the appointment of foreign coaches and supporting staff.
- In April 2016, the Central Sector Scheme, Khelo India – National Programme for Development of Sports was approved by the government. It subsumes the erstwhile Rajiv Gandhi Khel Abhiyan, Urban Sports Infrastructure Scheme and National Sports Talent Search System Programme.

Inference:

India is a country of over 1.25 billion population, the current sports infrastructure is not able to meet the needs of so many people. The sports ecosystem is of poor quality in the country, in spite of the above mentioned measures taken by the government. The lack of world-class infrastructure and the inadequate support of the government is reflected in poor performance of Indian athletes in major international events like the Olympics. It is high time, the public and private sector should come together to lift the Indian sport sector from the present deplorable situation.

Article 6

Sports Ministry to set up 20 national centers of excellence

<https://sportstar.thehindu.com/other-sports/sai-centres-of-excellence-kiren-rijju-nsfs/article29476548.ece>

Each centre will be earmarked for four to six specific sports, depending on the infrastructure available and will train athletes in the developmental group for the 2024 Olympics.



VIJAY LOKAPALLY



NEW DELHI 21 SEPTEMBER, 2019 16:30 IST



Kiren Rijju: "Standardising the training on campus will enable athletes to attain much higher performances in their respective sport." - SHIV KUMAR PUSHPAKAR

The Union Sports Ministry will set up 20 National Centres of Excellence (NCE), which will have the distinction of having a single scheme running in them for elite athletes. The move is aimed at ending differentiation in training and other facilities between athletes within the same campus.

According to Sports Authority of India, each Centre of Excellence will be earmarked for four to six specific sports, depending on the infrastructure available and will train athletes in the developmental group for the 2024 Olympics.

READ | Sports policy under consideration, says Rijju

The scheme will ensure that athletes in the same premises have access to similar facilities. The decision comes just a few

months after it was announced that the budget for the diet of athletes will be made equal, irrespective of the level at which the athlete is training.

While the National Center of Excellence will be reserved for athletes training for Olympics, grassroots level athletes will be trained at other SAI facilities and moved to NCE depending on performance and possibility of an Olympic medal. The two-tier training system will ensure that at both levels athletes get focused training.

The 20 SAI facilities that have been identified as National Centre of Excellence include, SAI centres in Patiala, Trivandrum, Chandigarh, Sonapat, Lucknow, Guwahati, Imphal, Kolkata, Bhopal, Bengaluru, Mumbai and Gandhinagar, Jawaharlal Nehru Stadium, Delhi, Indira Gandhi Stadium, Delhi, Major Dhyana Chand National Stadium, Delhi, Dr. Karni Singh Shooting Range, Delhi, Dr. Shyama Prasad Mookherjee Swimming Pool Complex, Delhi, National Water Sports Academy (Khelo India), Alleppey, National Boxing Academy (Khelo India), Rohtak, National Wrestling Academy (Khelo India), Aurangabad.

READ | Kiren Rijju expecting a strong performance from Indian shooters in Tokyo Olympics

On the decision, Union Sports Minister Kiren Rijju said, "Standardising the training on campus will enable athletes to attain much higher performances in their respective sport. When athletes of the same level train at a centre and the facilities are made exclusively available to them, they will train better and results will show. We are working in close co-ordination with NSFs to ensure a smooth transition of our existing facilities into National Centre of Excellence and to identify more centres."

Inference:

For participating in the 2024 Olympics, the ministry of sports has shortlisted 20 sports centers to be upgraded considering infrastructure development and training facilities aimed to help athletes and sports persons who will be participating in the 2024 Olympics. The new facilities provided will help athletes boost their mental and physical attributes. The shortlisted facilities will be in major cities in India.

5 CHAPTER 2



CASE STUDIES

UVA El Paraiso by EDU. 01 Colombia.

INTRODUCTION: Area : 3879 M² Year : 2015

“The Paradise”, is a **sport center, recreational and cultural activities**, is conceived as an **neighborhood club** immersed in one of the districts of highest development of Medellin, its location responds to the consolidation of a strategic project of urban centralities, which linked through the creek La Cabuyala as environmental axis and San Antonio de Prado Park-library as an existing cultural facilities are the services offering of a rural community and in housing expansion, with a high demand in **cultural activities, music and sports**.

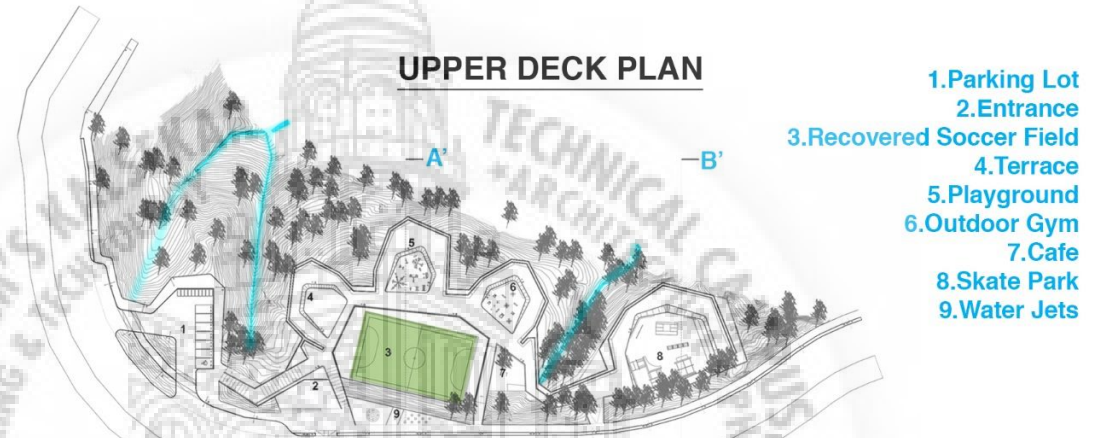


Fig 10(a).

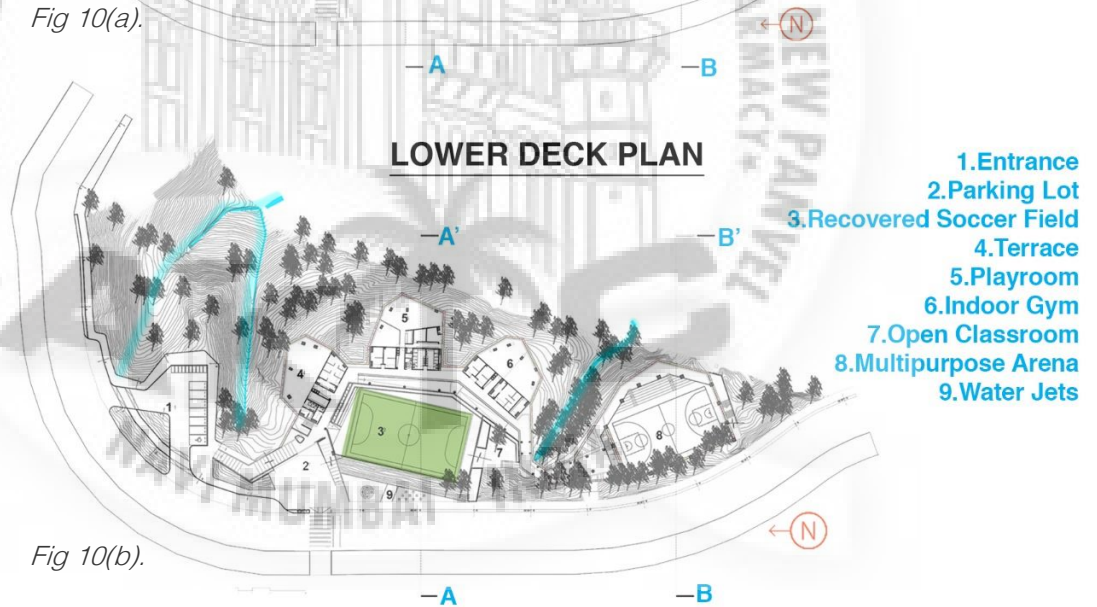
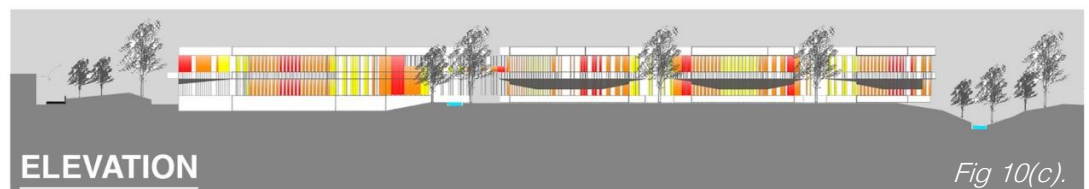


Fig 10(b).

INTENT OF STUDY:

Understanding how the concept of sports center , recreation and cultural activities helps in shaping the city and keeping all its citizens active with direct and interactive experience of the various activities.



ELEVATION

Fig 10(c).



Fig 10(d).

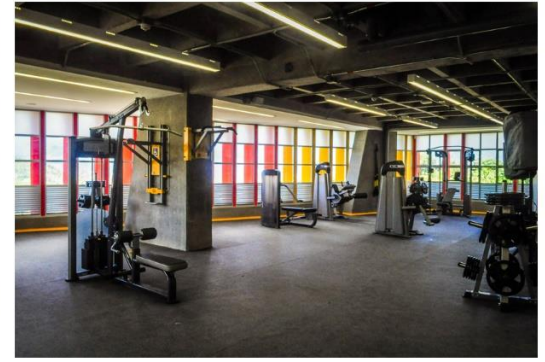


Fig 10(e).



Fig 10(f).



Fig 10(g).



Fig 10(h).

Medellin is a city with very few lots for the new generation of **public spaces and facilities**, a challenge that has led us to design buildings that are **parks** on their covers, optimizing the area for citizen encounter. Due to our geographical condition these covers becomes perfect city balconies and in the case of UVA, hosting the manifested wishes of the **community** in various **activities** that energize **urban life and its environment** like, **outdoor gym, skate park, playground, community events square** and an interactive space with water, **100% effective and accessible public space**.

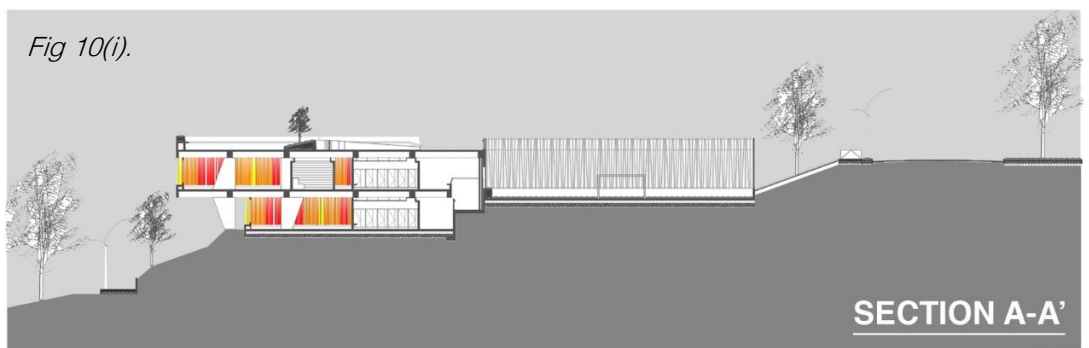


Fig 10(i).

SECTION A-A'



This building is a rigorous placement exercise where the **architectural program** is split into four **volumes** that revolve around an existing **soccer field** that was transformed, which is the **central core** that links all programs, a precise distribution as an act of respect for **conservation** of several trees of great natural importance and two creeks running through the lot. From urbanism the existing platform it extends to a large **public terrace** that embraces the **soccer field** as the main stage.



INFERENCE:

The new generation of public spaces and facilities, a challenge that has led to design buildings that are parks on their covers, optimizing the area for citizen encounter. Due to our geographical condition these covers becomes perfect city balconies.



Fig 10(l).

SECTION B-B'

Maryland Heights Community Recreation Center. United States.

02

INTRODUCTION: Area : 91800 FT² , Year : 2017

The Maryland Heights Community Recreation Center is a dynamic hub for recreational sports, wellness, and civic engagement located in this west St. Louis community. Situated prominently along the city’s belt-way and adjacent to Maryland Heights’ outdoor water park, the Center offers a prominent destination for residents with significantly improved space and a greater variety of activity areas for community use over their former facility on the same site.

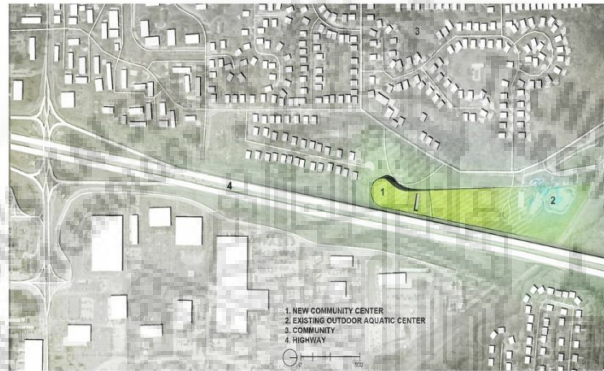


Fig 11(a).

INTENT OF STUDY:

To understand the functioning of a wellness center and how it reacts to the harsh surroundings in the environment. Also, how it affects the neighbourhood context.

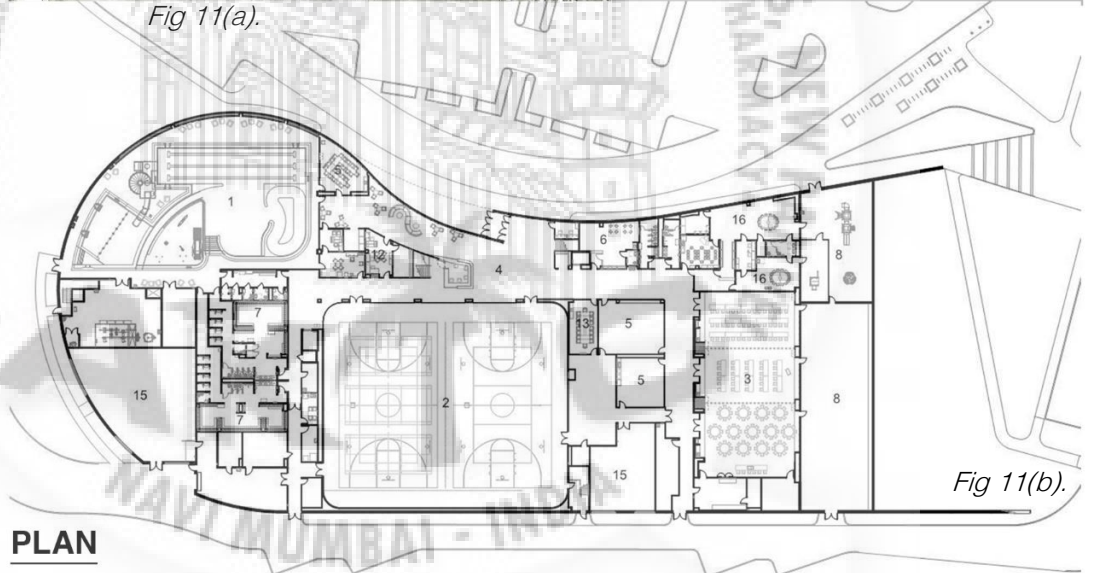


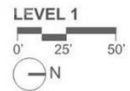
Fig 11(b).

PLAN

- 1. Natatorium
- 2. Multi-Activity Court
- 3. Millennium Court
- 4. Lobby
- 13. Meeting Room
- 14. Jogging Track
- 15. Mechanical Room
- 16. Pre - School Area

- 5. Multi-Purpose area
- 6. Play center
- 7. Locker rooms
- 8. Playground

- 9. Group exercise
- 10. Senior center
- 11. Fitness Area
- 12. Administration



Meeting rooms and a preschool are nestled in the lowest portion of the form and have a private courtyard carved in the rising ground plane.

Fig 11(c).

LONGITUDINAL SECTION

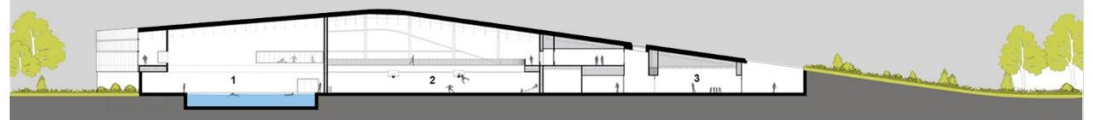




Fig 11(d).



Fig 11(e).

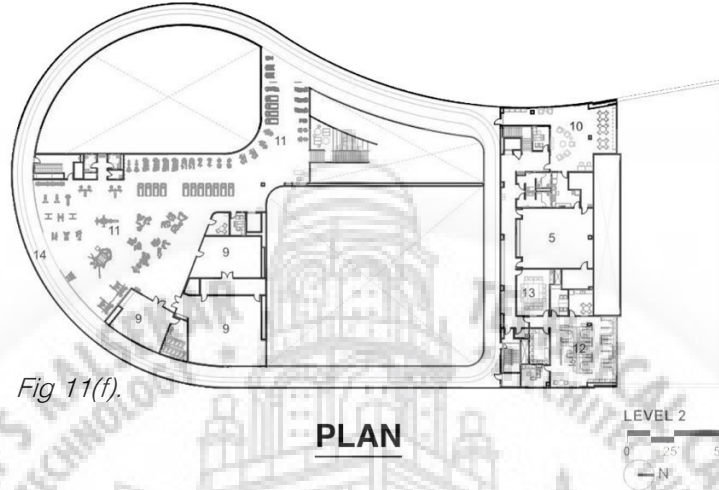


Fig 11(f).

PLAN

1. Natatorium
2. Multi-Activity Court
3. Millennium Court
4. Lobby
5. Multi-Purpose area
6. Play center
7. Locker rooms
8. Playground
9. Group exercise
10. Senior center
11. Fitness Area
12. Administration
13. Meeting Room
14. Jogging Track
15. Mechanical Room
16. Pre - School Area



Fig 11(g).



Fig 11(h).



Fig 11(i).

The building makes an **organic** inflection in plan that further shelters the entry **plaza** to the **pavilion**, thus protecting the entry **experience** from highway noise and traffic. At the same time, the transparent façade reveals the **public life** of the community engaged in its **activities of wellness and recreation**. The **indoor pool** is prominently on display in the bulbous south end, maximizing **access to sunlight**.



Fig 11(j).

The requirements of creating a **destination center** for the community - while achieving it in a hospitable way that mediates the harsh environment of the highway - and preserving usable **green space** are satisfied in a single architectural ploy of lifting the ground plane and nestling the building into the landscape. This creates a sheltering form while maintaining an occupiable berm that points toward the **park**.

INFERENCE:

Creates a destination center for the community an organic way which blends with the surrounding and the usage of green spaces and improved activity spaces in the structure for the users.

Second Stage of Hangzhou & Yunqi Cloud Town Exhibition Center. China.

03

INTRODUCTION: Area : 66680 M² , Year : 2018

The project lies in the birthland of characteristic towns—Cloud Town, Hangzhou. For actively embracing imagination, a once unfinished industrial park has now become the industrial hub of cloud computing, big-data and artificial intelligence. The ‘Computing Conference’ held in autumn every year has become the largest-scale scientific and technological fiesta. Oddly enough, the conference was held outdoors several years in a row simply because of the ‘impropriety’ of available venues. Of course, by no means does ‘impropriety’ suggest those venues were inferior in terms of size or grade, it’s just that the conference founders didn’t want to see people’s imagination being constrained by a venue. Therefore, as the designers of the exhibition center, we intended to break away from past experience and the ‘desire to create’, contemplating and making breakthroughs from its origin instead of constructing yet another generic exhibition center on this land.

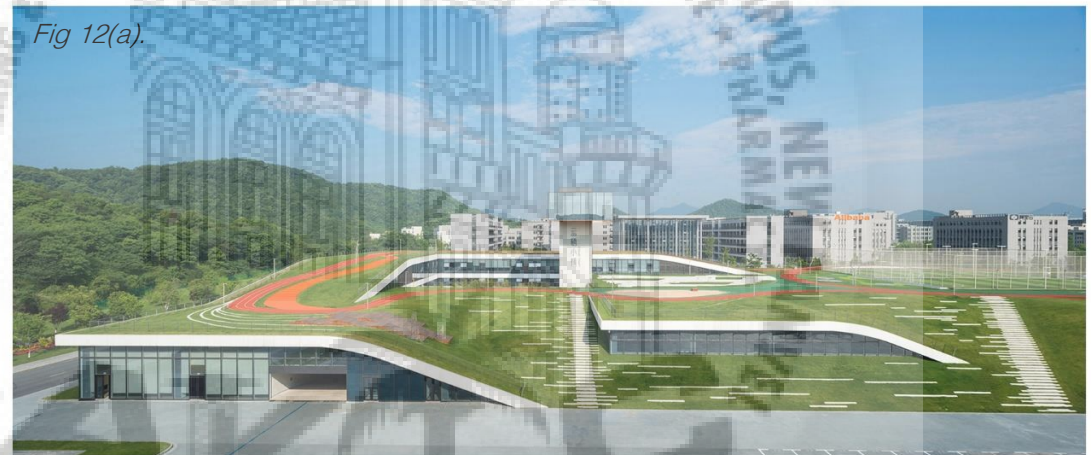


Fig 12(a).



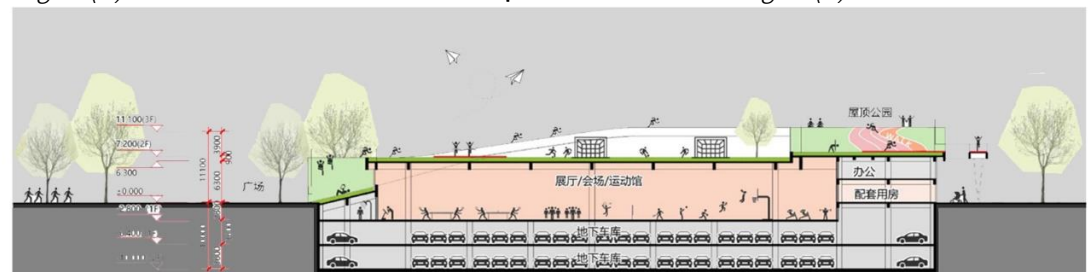
Fig 12(b).

INTENT OF STUDY:

Understanding how informal physical activities and exhibition spaces are incorporated in design to create a unique user experience.



Fig 12(c).



LONGITUDINAL SECTION

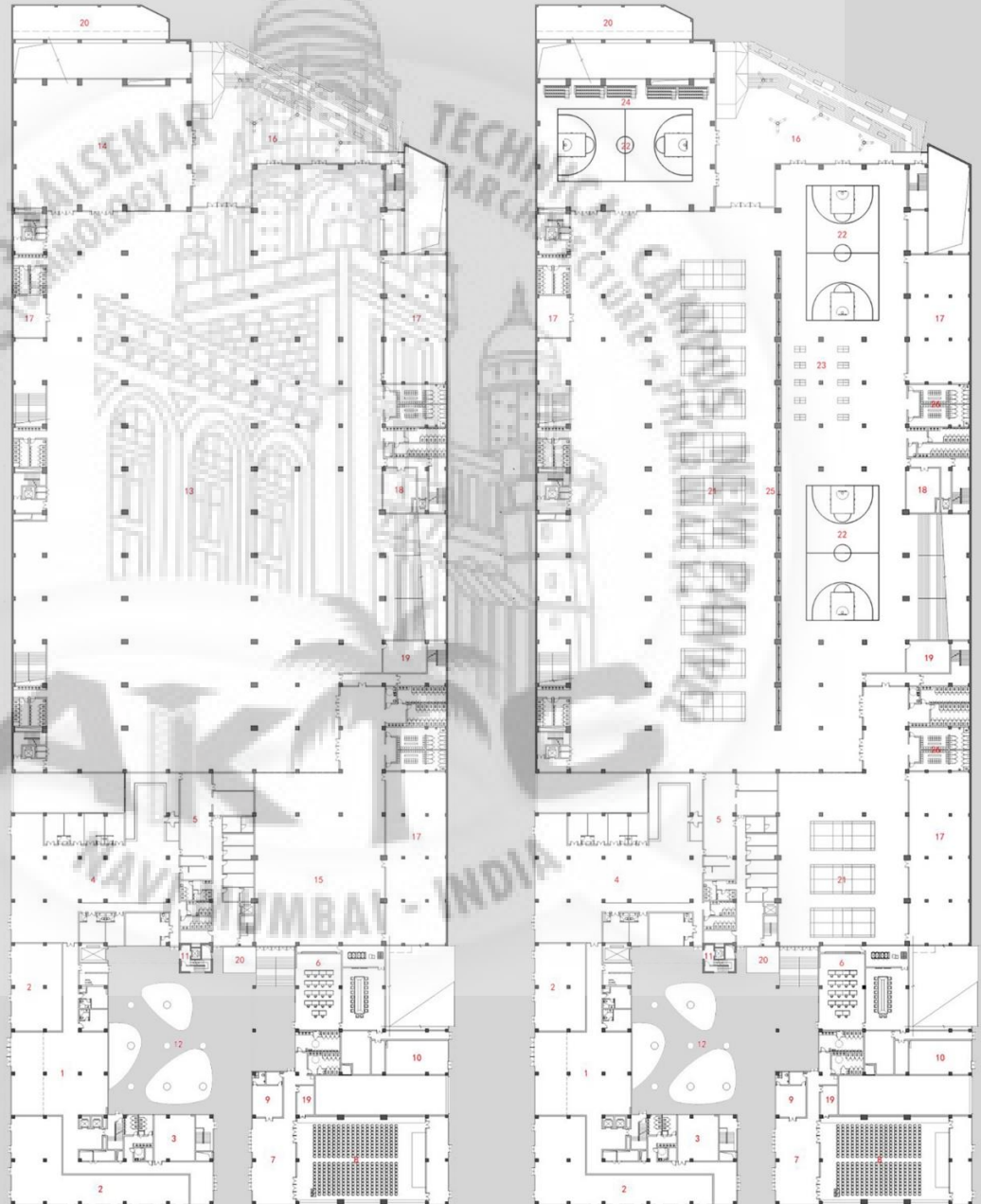
Fig 12(d).

The interior of the building no longer serves solely as an **exhibition hall**. Through **integration of space and functions**, we confer upon it a new property – ‘**Sports - Warehouse**’. In absence of a conference, the exhibition hall can be immediately transformed into facilities for a **series of sports** such as **basketball, badminton, table tennis, fitness training** and etc., with the addition of **closet, showering and professional mechanical/electrical equipment**, making it a hustling and bustling place every day. So much so that the demand is well in excess of its capacity.

Fig 12(e).

PLANS

Fig 12(f).



- | | | | |
|----------------------|------------------------------|---------------------------|---------------------------|
| 1. Office Area Lobby | 6. Command Hall | 11. Sightseeing Tour | 15. Sub-Exhibition Hall 2 |
| 2. Supporting Room | 7. Foyer | 12. Gathering Space | 16. Lower Square |
| 3. Office | 8. Civil Attack Hall | 13. Main Exhibition Hall | 17. Warehouse |
| 4. Hall | 09. Reception Room | 14. Sub-Exhibition Hall 1 | 18. Management Room |
| 5. Kitchen | 10. Elimination Control Room | | 19. Service Room |

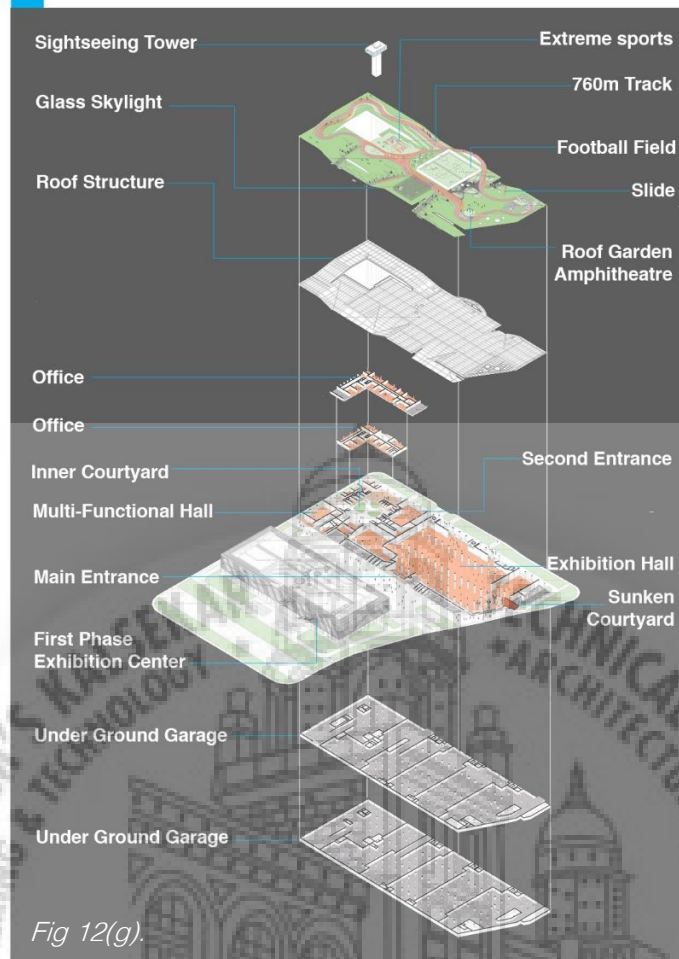


Fig 12(g).

The free and open experiences epitomize the town's atmosphere, giving every visitor a sense of belonging and joy. In leisure time, large numbers of people come here every day to take a walk, rest, meet up and play around. Everywhere you can see their presence. There are even spontaneous shows going on. Therefore, the building turned from a makeshift structure (from design to completion it took only three months, original plan was to tear it apart afterwards) into a permanent building representing the entrepreneurial spirit of the town.



Fig.12(h).



Fig 12(i).



Fig 12(j).

Today everyone is talking about **interconnecting and sharing**, but it appears that all the connections are **virtual connections**, and all the sharings are **alternate sharings**. We are living in an age of extremely advanced **social networking**, but the **opportunities for people** to truly get to know each other are fewer and fewer. We are in an age of 'universal **interconnection**', and we are ignoring the quite essential **interconnection**— **interconnection between people**. We wish to design this **attractive open place** to encourage people to get out of their home and their office and come to this park to **embrace nature**. We wish people could **meet** here and **develop** all sorts of **interesting stories**.



The rooftop isn't just a park. We also introduced ten-odd types of fun-having facilities such as football field, watchtower, sand pit, studio theatre, roller skating platform, community vegetable garden, pavilion and hopscotch, all of which are joined by a 760 meters long winding rooftop runway. All these seemingly non-exhibition-center-related designs attract numerous top-level conferences to be held here. On usual days, large numbers of people come here every day to exercise, rest and play around. With spontaneous community activities such as township concert, football match, carnival and marathon going on, the exhibition center has become the place to be for workers and inhabitants of the town on a daily basis.

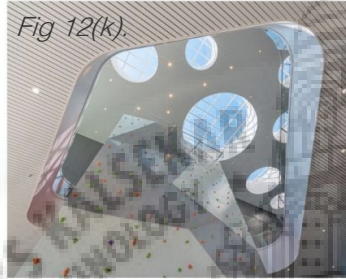


Fig 12(k).



Fig 12(l).



Fig 12(m).

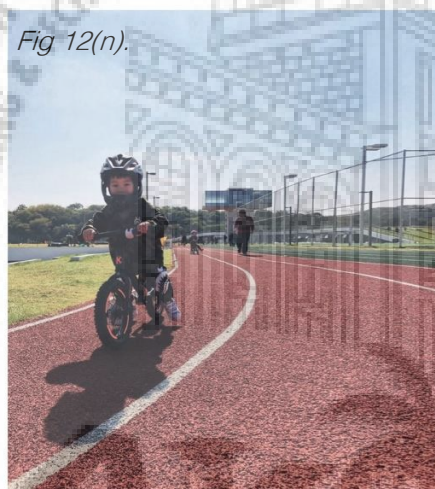


Fig 12(n).

INFERENCE:

Creates an exhibition center, intended to break away from past experience and the 'desire to create', a flexible approach in design and making the entire structure inviting to the users. The free and open experiences epitomize the town's atmosphere, giving every visitor a sense of belonging and joy.



Fig 12(o).



Fig 12(p).



Fig 12(q).

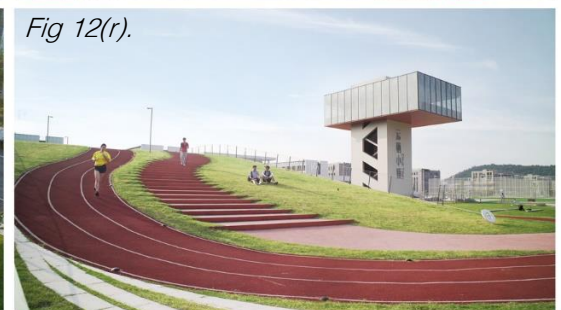
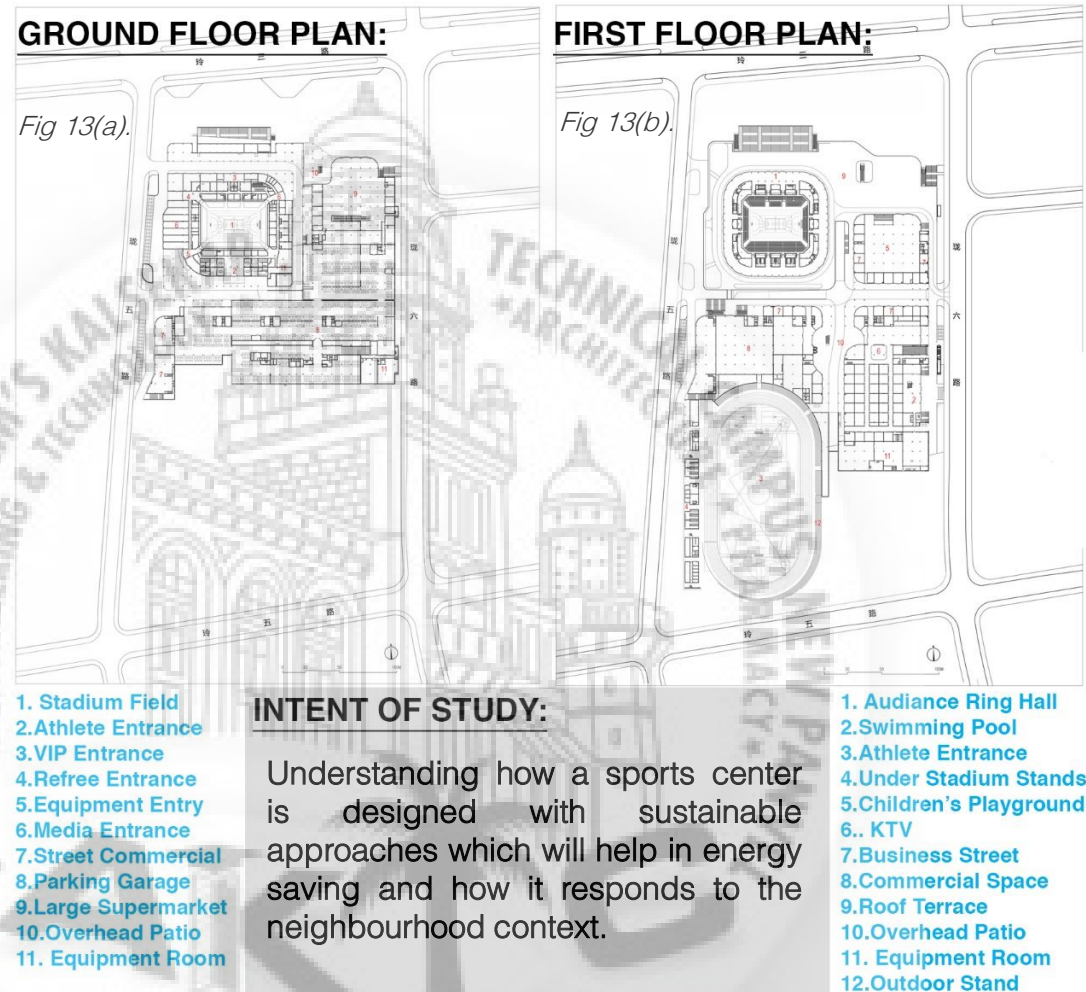


Fig 12(r).

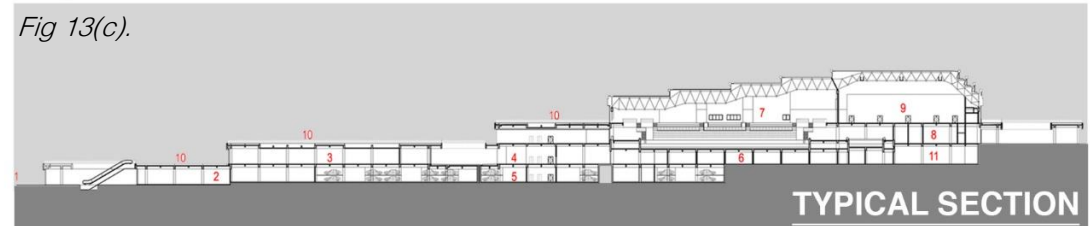
Lin'an Sports and Culture Center. China. 04

INTRODUCTION: Area : 7598 M², Year : 2015

Lin'an City is famous for its **landscape**. The idea of this project originated from the landscape of Lin'an. Using the freehand brushwork method, it outlines the landscape of the mountains and rivers, which is consistent with the profound **cultural heritage of the city** of Lin'an.



In combination with the **geomorphic features** of the low hill and gentle slope in the site, we have designed the **sports center** as a unique form with the elevation of the **contour lines**, responding to the surrounding mountains on the overall **urban level**, like a green vein, closely linking the natural mountains in the north and the south. By combining the layers with the geomorphology, the architecture can connect with the **urban nature** and create a number of **high level activity platforms**, which greatly improves the **accessibility and participation** of the site.



GROUND FLOOR PLAN:

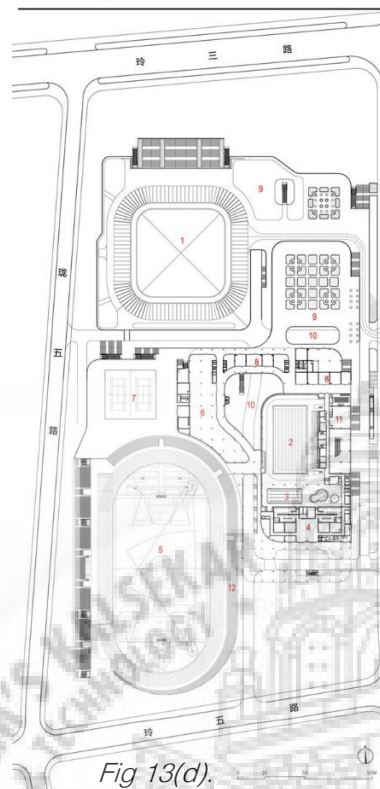


Fig 13(d).

FIRST FLOOR PLAN:

Swimming Audi.1
Tennis Hall.2
Over the pool.3
Roof Terrace.4

1. Gymnasium
2. Swimming Pool
3. Training Pool
4. Athlete Area
5. Stadium
6. Dining Area
7. Outdoor Courts
8. Commercial Space
9. Roof Terrace
10. Competition Room
11. Roof
12. Bleachers

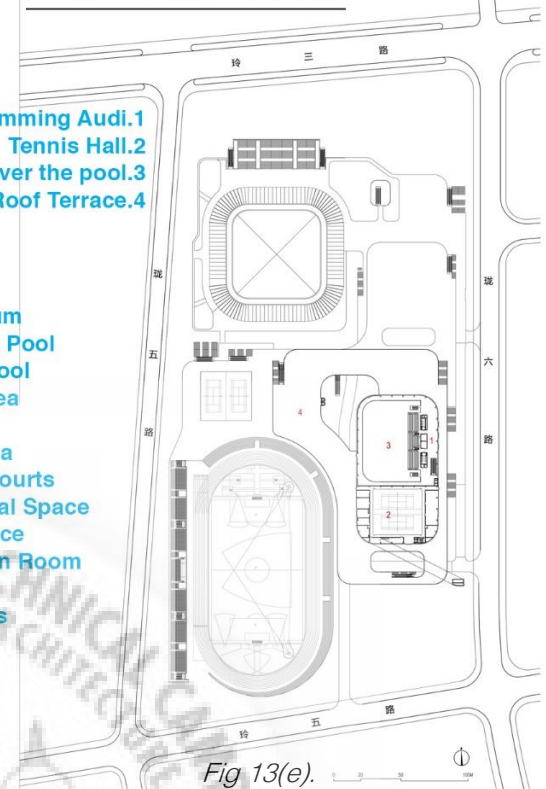


Fig 13(e).

As an important part of supporting the center by itself, the project includes a **children's park**, a **large supermarket**, a **fitness center**, **KTV** and a **variety of catering spaces**, and a **linear commercial belt** along the sides of the road and the inner street can meet the complex appeal of **fitness, leisure and entertainment** for citizens. The whole sports center has designed several groups of **landscape courtyards and transitional spaces** around the courtyard to create rich spatial experience.

The project covers an area of 161 mu, and we need to arrange various functions such as **gymnasium**, **training hall**, **natatorium**, **outdoor stadium** and **business support**, and the land is scarce. The plan takes the sports complex as the starting point. On the one hand, the body of the gymnasium is wrapped with the tapered and perforated plate of the double surface to create a **translucent and light visual effect**. With the lantern, the site is made into a striking city **landmark**.

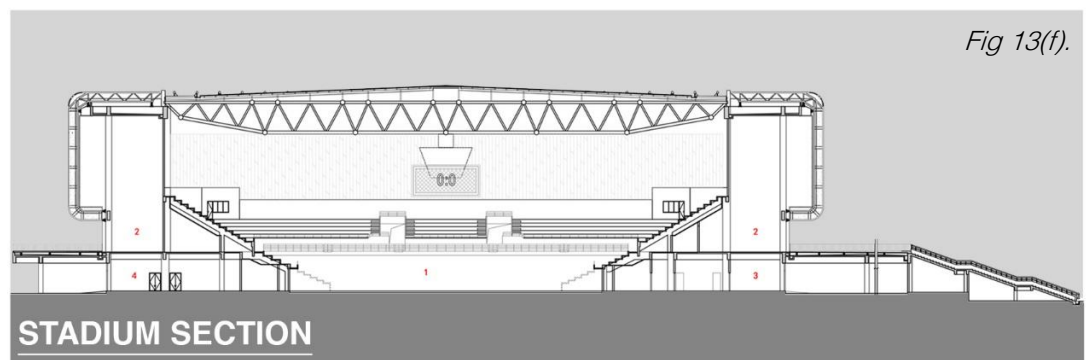


Fig 13(f).

STADIUM SECTION



Fig 13(g).

In addition to the above design features, this project is a two-star energy saving building. Its main measures include:

Several venues are set up with roof light pipe, which do not need the indoor lighting during daytime, and can ensure the required brightness in daily use.

All platforms are rooftop greening, and the effect of heat insulation is remarkable.

The gradual perforated panel curtain outside the gymnasium provides exterior shading for the building, forming the inner soft light.



Fig 13(h).

Fig 13(h).

INFERENCE:

The architecture connects with the urban nature and creates a number of high level activity platforms, which greatly improves the accessibility and participation of the site.

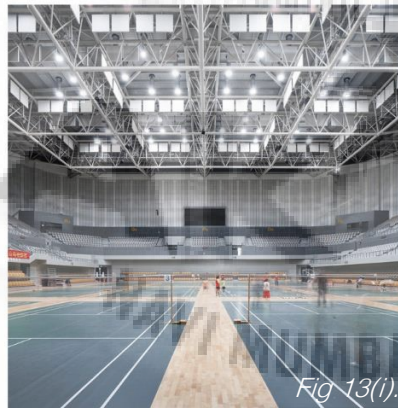


Fig 13(i).

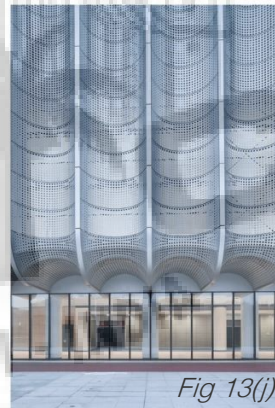


Fig 13(j).

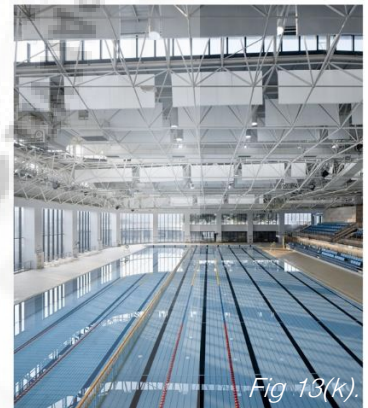


Fig 13(k).

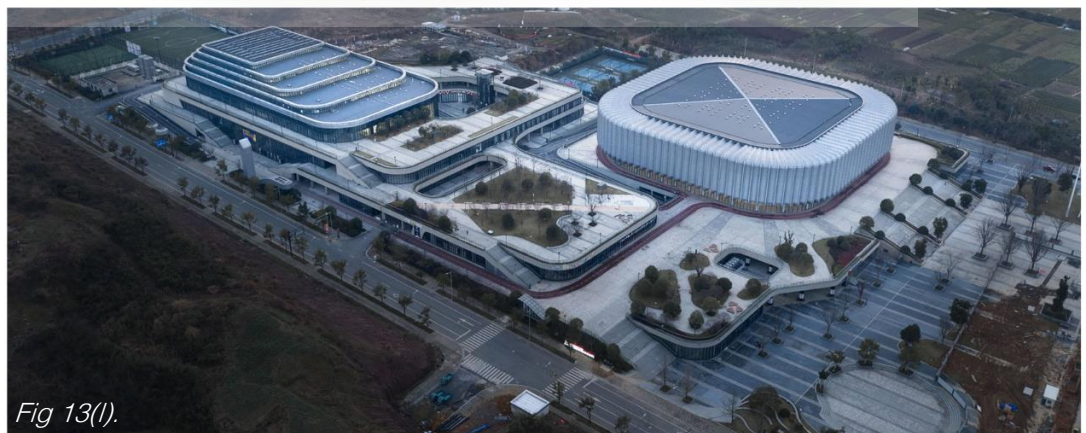


Fig 13(l).

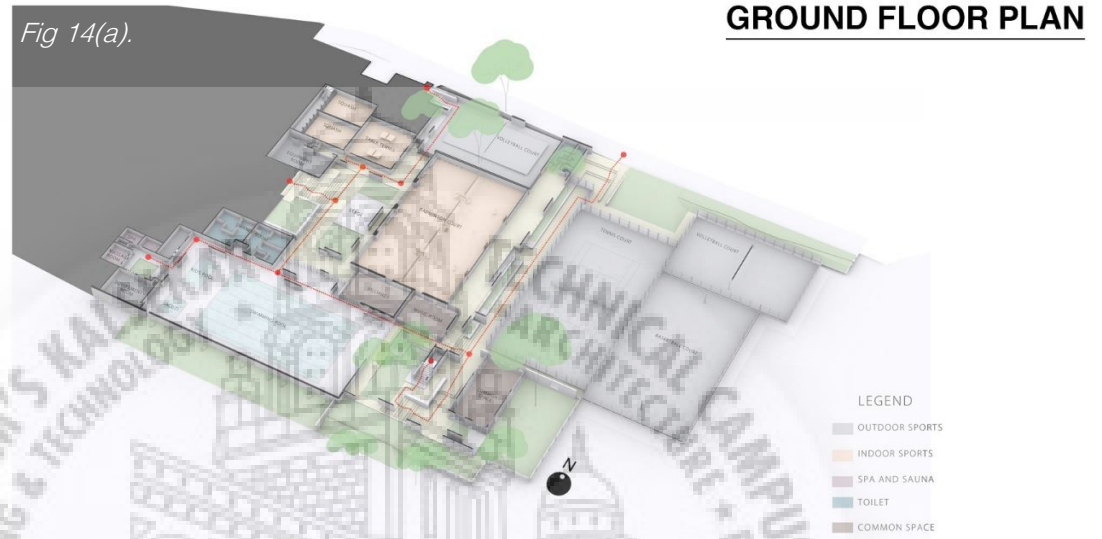
IIM Sports Center. 05 Bengaluru.

INTRODUCTION: Area : 3438 M² ,Year : 2016

The proposed sports center is planned in proximity to the existing hostel blocks. The planning had to take care of existing trees at the site. Main access and secondary access spines are created using trees as focal points.

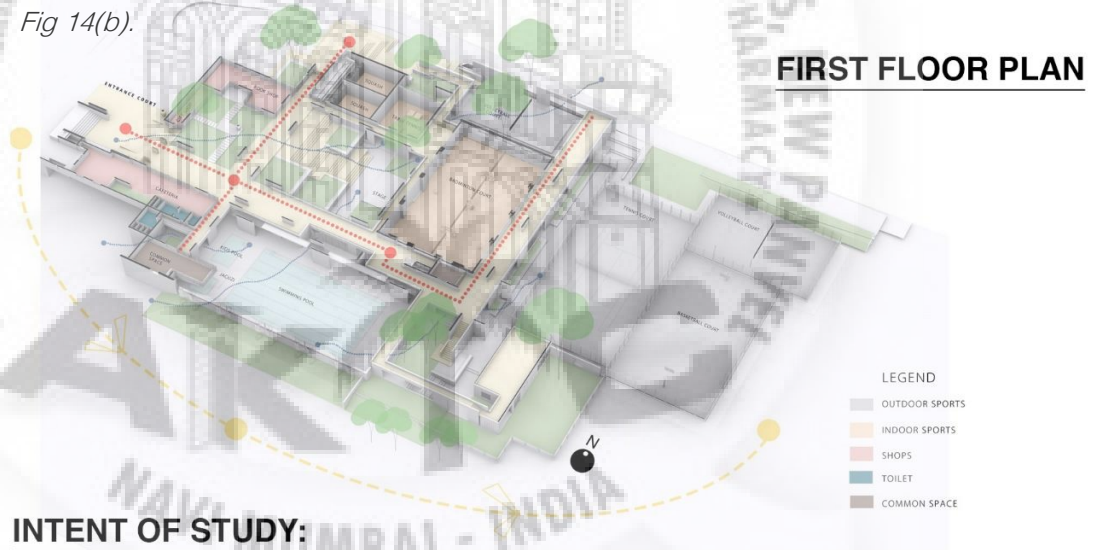
GROUND FLOOR PLAN

Fig 14(a).



FIRST FLOOR PLAN

Fig 14(b).



INTENT OF STUDY:

To understand how a sports facility functions considering the existing hostel blocks and how indoor and outdoor sports have been put together in this particular center responding to the trees and vegetation on site.

Fig 14(c).



ROOF PLAN:

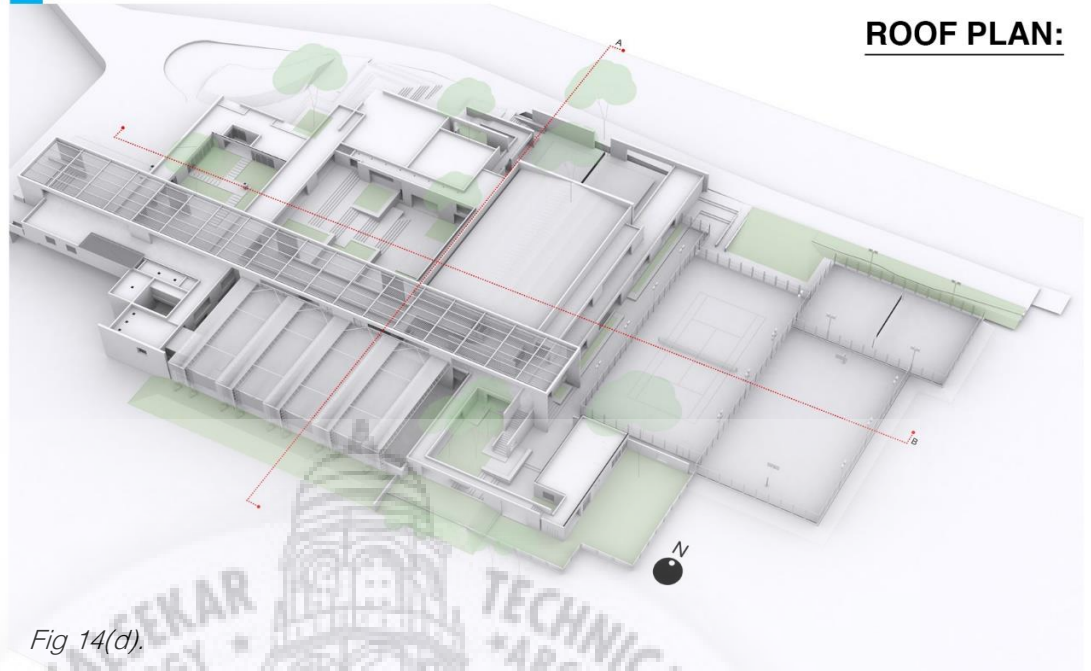


Fig 14(d).

The **sports facilities** are planned in two levels, in response to the **contours on site**. The structure is designed as a non-building that emerges from the green ground. There is a **gradual transition**: starting from the pergola-covered double height, which acts as the main circulation spine, up to a **semi open verandah** and eventually to the enclosed sports hall.

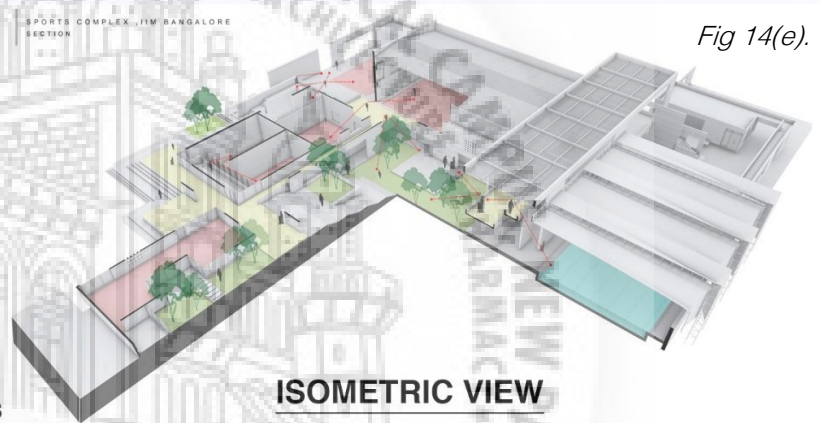


Fig 14(e).



Fig 14(g).





Fig 14(h).



Fig 14(i).



Fig 14(j).



Fig 14(k).

Wide steps and platforms located in the sporting facility hold **cultural activities** and also connect the building to the **landscape**. The intended concept aims to establish **a tranquil relationship between building, human, site and nature**. **Formal and informal interaction** is encouraged through the use of common areas for staff and students.

The main materials are stone and concrete, that help unify the new to the existing material in terms of language. Moreover, the sports facilities adhere to International standards.



Fig 14(l).

The main materials are stone and concrete, that help unify the new to the existing material in terms of language. Moreover, the sports facilities adhere to International standards.



Fig 14(m).



Fig 14(n).



Fig 14(o).



Fig 14(p).

INFERENCE:
Aims to establish a tranquil relationship between building, human, site and nature. Formal and informal interaction is encouraged through the use of common areas for staff and students.

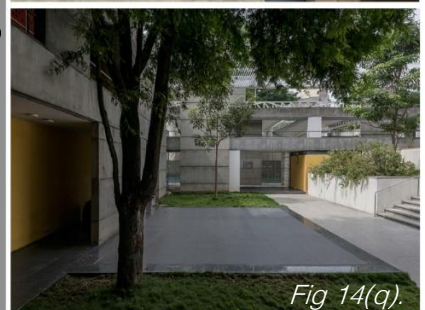


Fig 14(q).

“Im Sand” Gymnasium. 06

France.

INTRODUCTION: Area : 2539 M² , Year : 2020

The building, intended to replace the existing equipment, is aimed not only at students of the Maxime Alexandre middle school, but also at sports associations in Lingolsheim, and in particular the badminton association. The design of the gymnasium aims at reaching a simple, rational, and pure form. A rectangular volume is placed at the end of the plot, on the southern limit, and at little distance from the cycle path. If a first reading of the project reveals above all its massive writing, the aspects of the ground floor (hall and common space), the first floor (stands, meeting room and multipurpose room) and the second floor (indoor archery range/ table tennis room) introduce a different

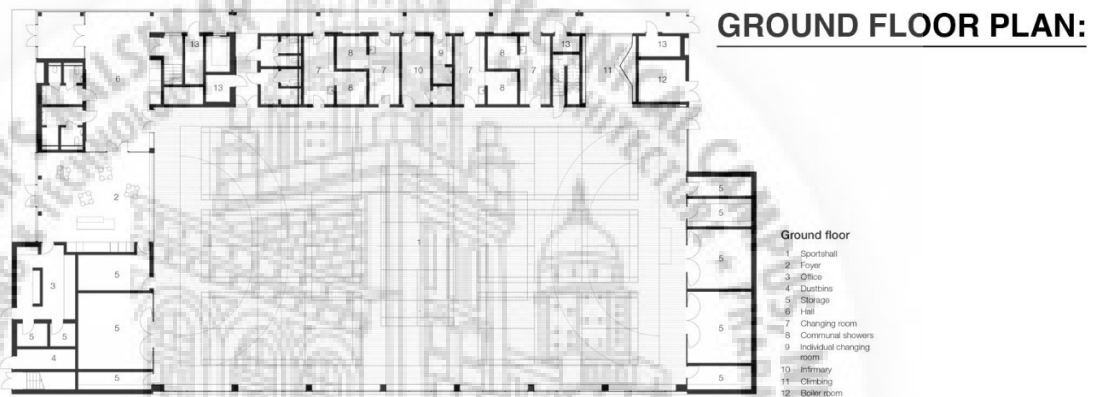


Fig 15(a).

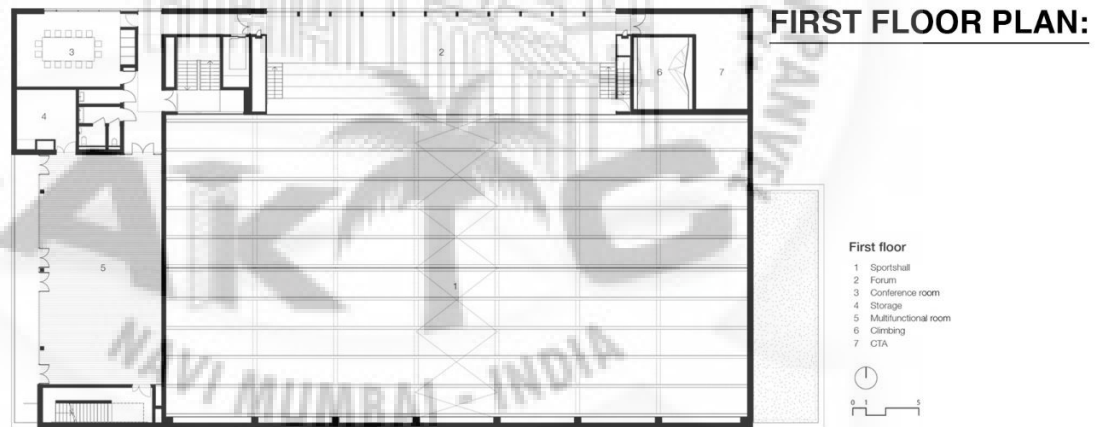


Fig 15(b).

INTENT OF STUDY:

Understanding how a formal facility like school and physical activities work hand in hand and keeping the students active all the time.

Fig 15(c).

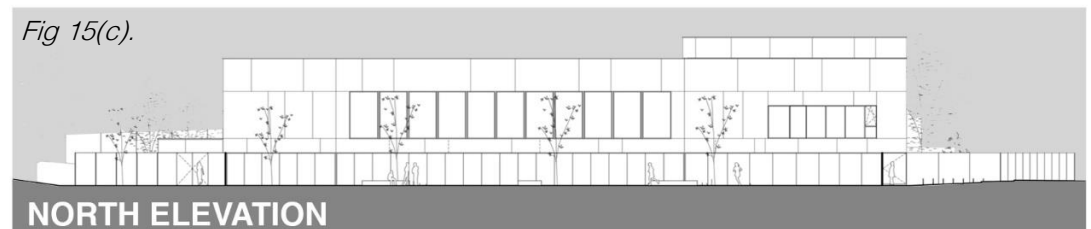
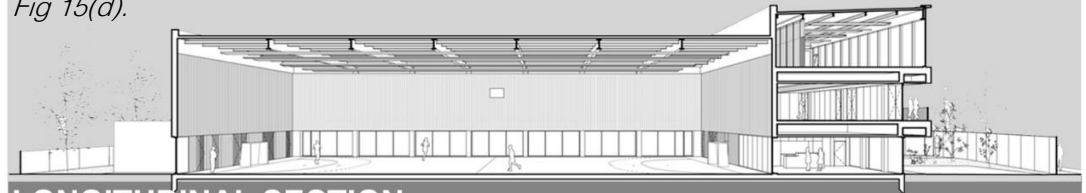


Fig 15(d).



LONGITUDINAL SECTION

SECOND FLOOR PLAN

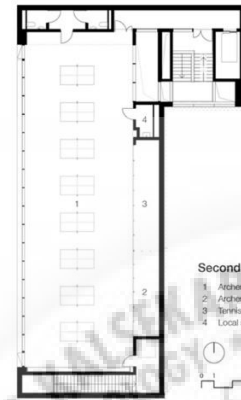


Fig 15(e).



Fig 15(f).



Fig 15(g).

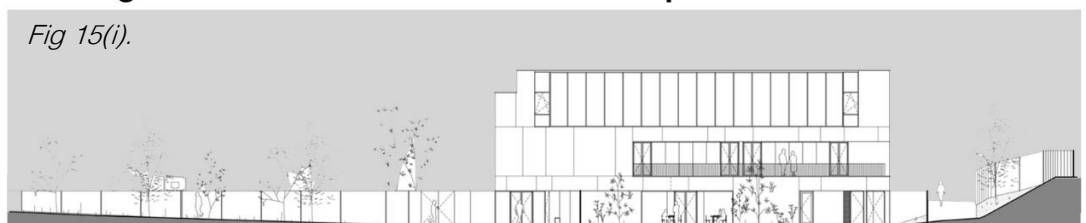
The bearing structure, mainly designed in **concrete**, is topped with **metal frames** on the sports hall as well as on the high volume. The combination of a **solid and resistant concrete structure** and a **lighter structure**, combining **columns and beams in metal profiles**, highlights the general geometry of the building, its flexibility, and dynamism.

Fig 15(h).

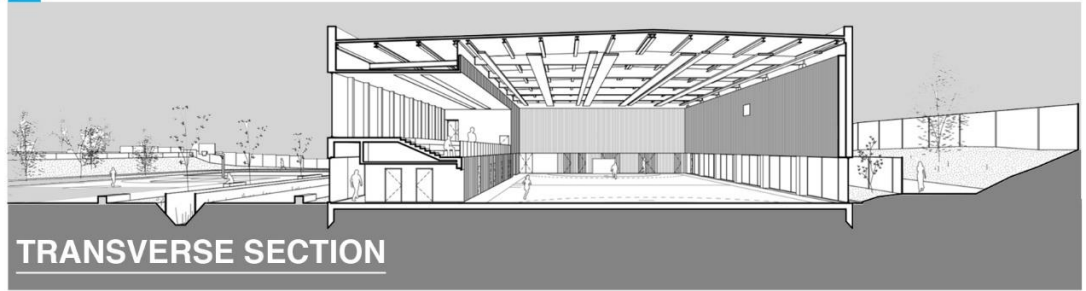


Sports practice is thus staged to the scale of the city, in particular through the bottom angle view from the Rue du Travail, to the scale of the train by the window placed high-up for the **indoor archery range**, or via frontal and longitudinal contact with the **cycle path** on the south of the site. Two large openings punctuate the overall shape, lighten the volume and offer a strong and identifiable character to the Maxime Alexandre gymnasium. The building's expression resides to a large extent in the constructive technique used.

Fig 15(i).



WEST ELEVATION



TRANSVERSE SECTION

The structural logic of the equipment thus echoes sporting prowess through a **technical, structural, and robust envelope made of prefabricated and insulated double concrete walls, a metaphor of surpassing oneself through physical effort (flexibility, resistance, tension, endurance, effort, concentration).**



Fig 15(j).



Fig 15(l).

INFERENCE:

The gymnasium aims at reaching a simple, rational, and pure form. A rectangular volume is placed at the end of the plot, on the southern limit, and at little distance from the cycle path. introduce a different experience related to porosity and transparency.



Fig 15(k).



Fig 15(m).



Fig 15(n).



Fig 15(o).

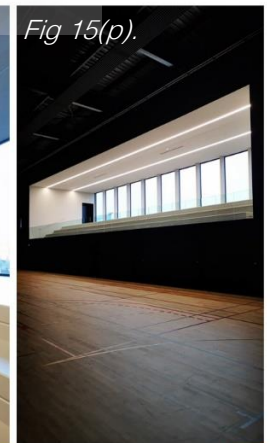


Fig 15(p).

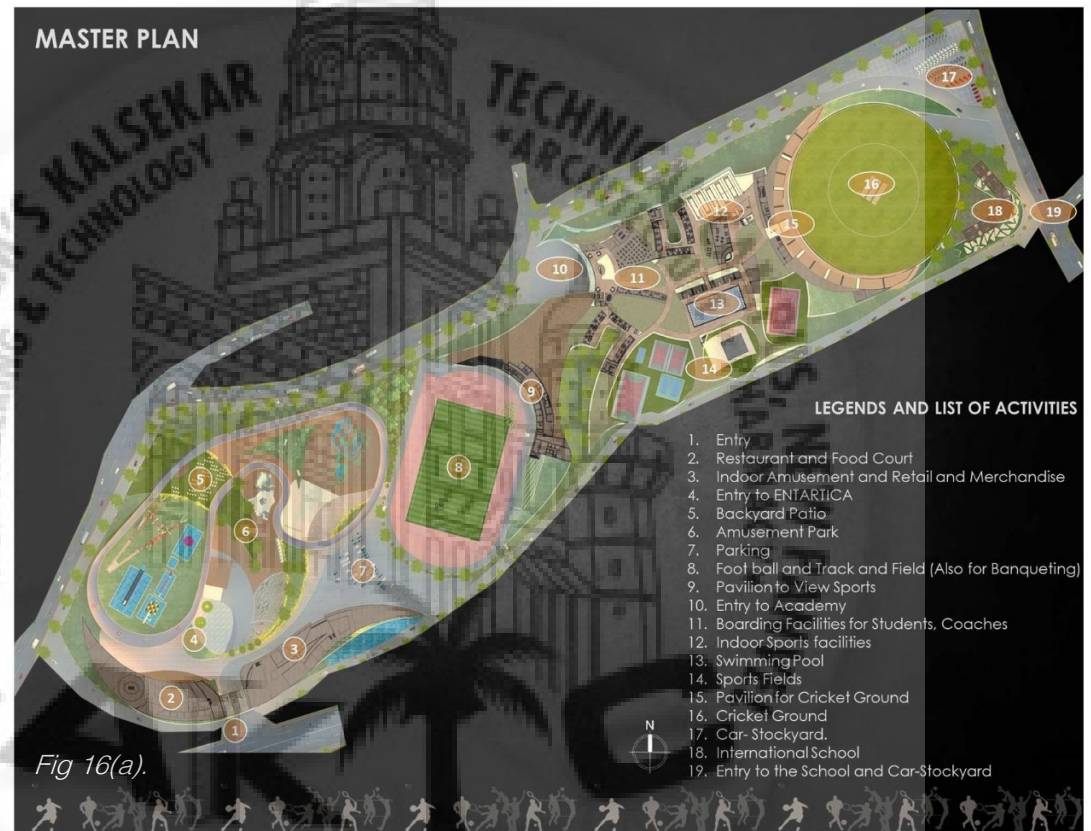
Umesh Yadav Sports Academy. 07

Nagpur City.

INTRODUCTION: Area : 48 Acers, Year : 2016

Located in the outskirts of Nagpur city, in India, this Sports academy is developed by Indian Cricketer Umesh Yadav. The building had to be designed for **Hot and dry climate, with extremely hot summers and cold winters.**

The academy facilitates **Multi-Sports facilities** and their **training**. It also includes **Entertainment and Amusement Park, Banqueting and Party Lawns, International School**, to sustain the Sports academy **financially**.



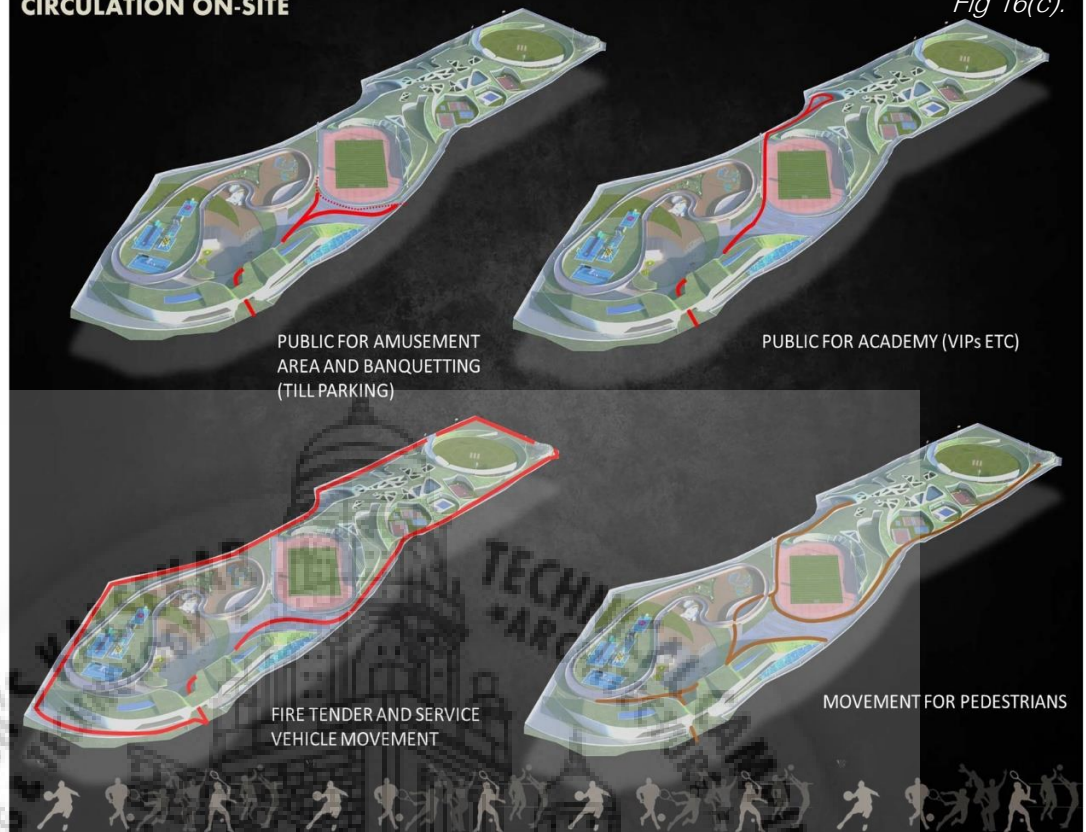
INTENT OF STUDY:

To understand how multiple functions work in a huge sports complex and how these functions are clubbed together and keeping the flow and user experience balanced.



CIRCULATION ON-SITE

Fig 16(c).



All these activities are laid out in a **fluid** manner, keeping the **orientation** of the sports grounds and courts in response to the **sun path** i.e., tilted 15 degrees North-South.

The **Fluid form**, developed in an **organic** manner allows the spaces to open inwards as well as outwards creating **break-out areas** and a series of **interactive spaces**.

The **fluidity** of the form seen externally is carried through the **interior volumes** allowing the spaces to **flow** into each other seamlessly while each space is yet defined within.

The **orientation** of these **spaces shields** them from the harsh sun yet giving a good avenue to view sports activities.

The built-form emerges out from the land, encapsulating the sports activities. It is covered by grass, creating a unique undulating landscape over the entire site. The cut-outs given on the **roof** are creatively done which act like **skylights** to lit up the internal spaces.

Thus the design leads to a **sustainable and green building** which is much more energy efficient whilst creating sculpted spaces.

Fig 16(d).





Fig 16(e).



Fig 16(f).



Fig 16(g).



Fig 16(h).

INFERENCE:

The building had to be designed to house multiple indoor and outdoor, commercial hub and amusement park and how all these elements work together.



Fig 16(i).






Fig 16(j).



Fig 16(k).

5.2 Comparative Analysis :

ANALYSIS POINTS		UVA El Paraiso	Maryland Heights Community Recreation Center	Second Stage of Hangzhou and Yunqi Cloud Town Exhibition Center
1	Area	3879 M ²	10900 M ²	66690 M ²
2	Building Typology	 Sport , cultural and community recreation center.	 Community Recreation Center is a dynamic hub for recreational sports, wellness, and civic engagement.	 Industrial , exhibition and activity park.
3	Accesibility	 Consieved as a neighbourhood club is accessible to the people living in medellin.	 The center offers a prominent destination for residents living nearby.	 As a large number of people come to this site as it is accessible to all its citizens.
4	User Groups	All age groups living in the neighbourhood.	All age groups residing in the immediate site context.	This structure welcomes all the user groups living in these 2 towns.
5	Program and Functions	Outdoor gym, skate park, playground, community events square and an interactive spaces.	Play center , courtyard , play ground , senior center , group exercise , jogging track , pre-school training , gym , swimming pool , basketball , soccer , badminton , indoor activities.	Exhibition halls ,basketball, badminton, table tennis, fitness training, , running track , concert area ,children's play area , gathering space , township concert, football match, carnival and marathon.
6	Intent	Medellin is a city with very few lots for the new generation of public spaces and facilities, a challenge that has led us to design buildings that era parks on their covers, optimizing the area for citizen encounter. Due to our gaographical condition these covers becomes perfect city balconies.	The requirements of creating a destination center for the community while achieving it in a hospitable way that mediates the harsh environment of the highway - and preserving usable green space are satisfied in a single architectural play of lifting the ground plane and nesting the building into the landscape. This creates a sheltering form while maintaining an occupiable berm that points toward the park.	The designers of the exhibition center, we intended to break away from past experience and the 'desire to create', contemplating and making breakthroughs from its origin instead of constructing yet another generic exhibition center on this land.
7	Experience	 Gives the users a direct and interactive experience of the various activities happening as the structure is accessed from the top. Spaces to enjoy with five senses: Architectures that interact with citizens, which generates experiences.	 The building makes an organic inflection in plan that further shelters the entry plaza to the pavilion, thus protecting the entry experience from highway noise and traffic. At the same time, the transparent façade reveals the public life of the community engaged in its activities of wellness and recreation.	 The free and open experiences epitomize the town's atmosphere, giving every visitor a sense of belonging and joy. A harmonious and interesting dialogue is thusly initiated at the site.
8	Opportunities	Immersed a neighbourhood club creates opportunities for the people to socialize and optimizing the area for citizen encounter.	The requirements of creating a destination center for the community. Center offers a prominent destination for residents to get engaged into sports.	Provides a platform for the people living in the town to know eachother and express themselves . Having certain diferent activities and functions boosts the social and cultural aspect.Social interaction and interconnection between people gets the city united.
9	Sustainable Approach	A precise distribution as an act of respect for conservation of several trees of great natural importance and two creeks running through the lot.building bioclimatic sun protection strategy.	-	Energy saving means were used in this structure which contributed to 40 % energy saving in the hub.
10	Materials	It is in a building in concrete in sight, facades composed by a series of vertical brics in warm colors chosen by the community	Materials like Concrete , glass and steel were used in the construction.	The structure is designe in steel , concrete, stone and glass .

Lin'an Sports and Culture Center	IIM Sports Center	Umesh Yadav Sports Academy	"Im Sand" Gymnasium
7598 M ²	3438 M ²	48 Acres	2539 M ²
			
Sports center and Commercial hub.	Sports center.	Sports academy.	Sports association.
			
This structure is accessible to all the people living in city of Lin'an. Open for all the user groups living in the city of Lin'an.	Accessible to people living in India who are engaged into sports. This sports center is Youth Orientated.	Accessible to the people of city of Nagpur for training development. All user group.	This Gymnasium offers a training facility for the students in the school and association. Youth orientated.
Gymnasium, training hall, natatorium, outdoor stadium and business support, children's park, a large supermarket, a fitness center, KTV and a variety of catering spaces, and a linear commercial belt along the sides of the road and the inner street can meet the complex appeal of fitness, leisure and entertainment.	Outdoor sports, Indoor sports, spa, training room, Play grounds, swimming pool, hostels, tennis, volley ball, basketball, squash, badminton court, common space, football turf.	Indoor sports, outdoor sports, amusement park, small scale cricket and football stadium, shops, showrooms.	Indoor archery range, table tennis room, gym, indoor basketball and football turf.
The intent to create a cultural center for the city they began by combining the layers with the geomorphology, the architecture can connect with the urban nature and create a number of high level activity platforms, which greatly improves the accessibility and participation of the site.	The proposed sports center is planned in proximity to the existing hostel blocks. The planning had to take care of existing trees at the site. Main access and secondary access spines are created using trees as focal points.	This Sports academy is developed by Indian Cricketer Umesh Yadav. The building had to designed to house multiple indoor and outdoor, commercial hub and amusement park.	The building, intended to replace the existing equipment, is aimed not only at students of the Maxime Alexandre middle school, but also at sports associations in Lingolsheim, and in particular the badminton association.
			
The rigid body of the structure is wrapped with the tapered and perforated plate of the double surface to create a translucent and light visual experience. Exploring the commercial and cultural identity of the city.Helps the people of the city to come together and interact with each other.	The experience aims to establish a tranquil relationship between building, human, site and nature. Formal and informal interaction is encouraged through the use of common areas for staff and students. Creates an opportunity for the youth and people involved in professional sports.	The Fluid form, developed in an organic manner allows the spaces to open inwards as well as outwards creating break-out areas and a series of interactive spaces giving the users a break free and continuous travel experience. Creates an opportunity for various sectors and it's a multi-functional sports academy which promotes learning, teaching and performing.	The design of the gymnasium aims at reaching a simple, rational, and pure form. A rectangular volume is placed at the end of the plot, on the southern limit, and at little distance from the cycle path. introduce a different experience related to porosity and transparency. Gives a platform not only to the students of the Maxime Alexandre middle school, but also at sports associations in Lingolsheim, and in particular the badminton association.
This project is a two-star energy saving building with many sustainable features.	Protecting the existing green cover and landscape and billing the structure around it.	The design leads to a sustainable and green building which is much more energy efficient whilst creating sculpted spaces.	-
The body of the gymnasium is wrapped with the tapered and perforated plate of the double surface. Other materials like steel and glass are also used.	The main materials are stone and concrete, that help unify the new to the existing material in terms of language.	Usage of concrete, steel, glass, and perforated panels blend seamlessly with the organic form of the center.	The bearing structure, mainly designed in concrete, is topped with metal frames on the sports hall as well as on the high volume. The combination of a solid and resistant concrete structure and a lighter structure, combining columns and beams in metal profiles, highlights the general geometry of the building, its flexibility, and dynamism. The structural logic of the equipment thus echoes sporting prowess through a technical, structural, and robust envelope made of prefabricated and insulated double concrete walls, a metaphor of surpassing oneself through physical effort (flexibility, resistance, tension, endurance, effort, concentration).

5.3 Design Clues :

- The Design will focus on creating different spaces , where it'll encourage and attract people after a busy day at work which will act as a buffer zone and make the feel relaxed.



Fig 17.

- A sport training facility and fitness center will also be an integral part of the project which will assist in developing the mental and physical attributes of the youth in India and will mainly focus on learning , training and performing agendas. The sport training institute will house generic sports played in an urban context of the selected site and will be youth orientated.



Fig 18.

- There will be various sectors commercial (will help generate revenue and run various businesses), cultural (will help revive the identity of various sports)and social (will make people interact with each other as we move towards the age of universal interconnection.
- The functions will be divided into two categories Formal and informal . The informal zone will be free to visit and the formal zone will be accessed only through subscription / registration by the people living in the neighborhood.
- The design will also house sports exhibition spaces for different sports and will provide an opportunity for several sport business events that happen in India.
- The design will also help conduct live screenings for the fans and people who love to watch different sports India .The major leagues like English Premier league , UEFA champions league , UEFA Europa league , LaLiga , Seria A , Bundesliga and MLS will be live telecasted in a space to create a ultimate fan base experience. IPL the Indian premier league will also be live telecasted at the time of its season and more more such different sports events will be held here.

5.4 Design Intent :

- To explore the perspective of sports specifically physical activities and the way it can transform the concept of physical recreation and understanding the relationship between body movement, social interaction and cultural identity. The role of sports in an individual's life.
- The Hub will showcase the opportunities to promote social interaction, recreation and cultural identity in an urban city and its impact on social, cultural, financial and commercial aspects.
- It leads towards the architectural intervention of a space where it'll provide a platform for the youth and professionals to learn, develop and participate in various competitions.



6 CHAPTER 3



THE SITE

6.1 Site Justification :

The following are the Site selection criteria for my project:

- As Mumbai is filled with many sports academies but at an individual level. Hence, site should be located out of Mumbai but closer to its reach so that people can easily transport to the location, hence, Navi-Mumbai. Some sports center have been built in Vashi and there is a huge Recreational park in Kharghar the Central Park so the site will be towards North of Navi Mumbai.

Need of the city :

- Navi Mumbai being a well-planned city lacks sporting facilities. Hence there is a need for a sports academy for the people of North Navi Mumbai and other nearby cities.

Usefulness :

- There should be many schools/institution and Residential buildings nearby the site, so that they can participate in coaching camps or also for schools which lacks space for physical education can use the site of training or coaching purpose and also can held annual sports meetings or take part in various sports competitions.

Climatic condition:

- The climatic condition of a space can affect the game of a person , hence he needs to practice and train in Specific conditions necessary for the sport. The Climate of Navi Mumbai is Tropical which makes it a standard condition to train a sports person.

Accessibility :

- The site should be easily accessible of all people from various places of Mumbai and Navi-Mumbai.

Development Plan:

- Previously CIDCO had proposed the development plan of Navi Mumbai which clear showed the lack of sporting & recreational zones which they rechecked and corrected in their new development plan. Sector 13 & 12 of Ghansoli Node of Navi Mumbai are been declared as sports complex sites by CIDCO to NNMC & GMO respectively

6.2 About the Site:

- The site falls in the Ghansoli node of Navi Mumbai, Maharashtra.
- Ghansoli is divide into various sectors from which the site lies in Sector 13 zone. The approx. measured area of the site is about 15.3Ha or 1, 529, 70 sq.mt. Or 37.80 acres.
- The site is about 4.5kms or 11kms by a vehicle from Ghansoli Railway Station.
- One can reach Ghansoli from Mumbai via Eastern Express Highway/ Mumbai Agra National Highway or via Mumbai - Pune /Bangalore Highway or Sion Panvel Highway.
- The site is a huge barren empty land which is specified as a sports complex site for NMMC (Navi Mumbai Municipal Cooperation as per Development plan given by CIDCO).
- The site is covered by roads on all side. The main road is about 15 mts. wide which is on the east and south side[30 wide including both sides). A unfinished road of 9 mts. wide runs on the northern and eastern side of the site. Footpath was 3mts. wide.
- The site has a tropical climatic condition and receives significant rainfall in most months of the year.
- Site surroundings include residential complex of about 20 floors and more along with a bus depo adjacent to the site. The upper part of site is covered by mangroves and falls under CRZ II zone.
- There are many schools nearby the site which also lacks basic playing areas due to the lack of area they have.
- The locality near the site lacks interactive recreational areas and also there are many housing projects adjacent to the site, hence, stating that people nearby can come and use the sports and recreational activity hub in order to rejuvenate one's self and also take part in various physical development activities.

6.3 Google Map location of the Site :

- **Ghansoli :**



Fig 19.

- **Site area :**
1,52,970 sq.mt.
37.80 acres.



Fig 20.

Site location map :



Fig 21.

There is not a single sports complex in Ghansoli and people travel to Vashi and Kharghar for sports activity. The site is situated at Ghansoli which is one of the node Navi Mumbai, and accessed by the main road (Gagangiri Maharaj Marg road). The site is situated at corner of Ghansoli one side faces large mangroves and is surrounded by residential buildings.

6.4 Climate of Ghansoli :

- This city has a tropical climate. There is significant rainfall in most months of the year. The short dry season has little effect on the overall climate. The climate here is classified as Am by the Köppen-Geiger system. The average annual temperature in Ghansoli is 27.0 °C. About 2760 mm of precipitation falls annually.

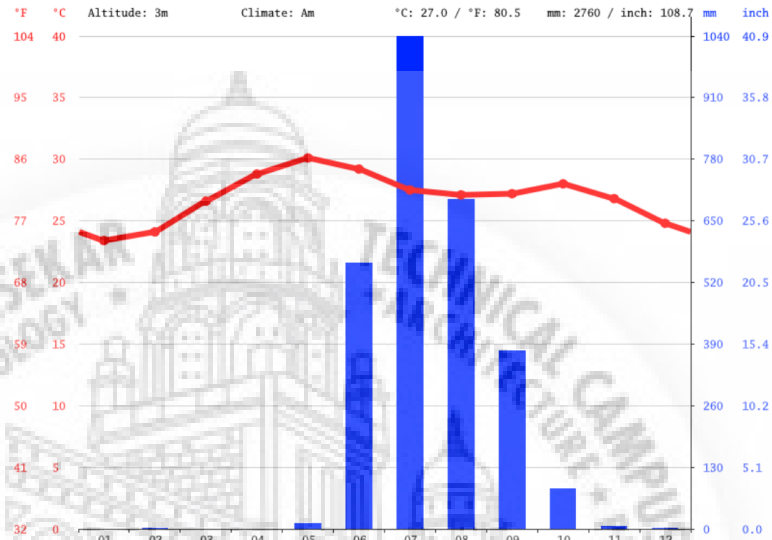


Fig 22.

- The least amount of rainfall occurs in January. The average in this month is 0 mm | 0.0 inch. With an average of 1034 mm | 40.7 inch, the most precipitation falls in July.

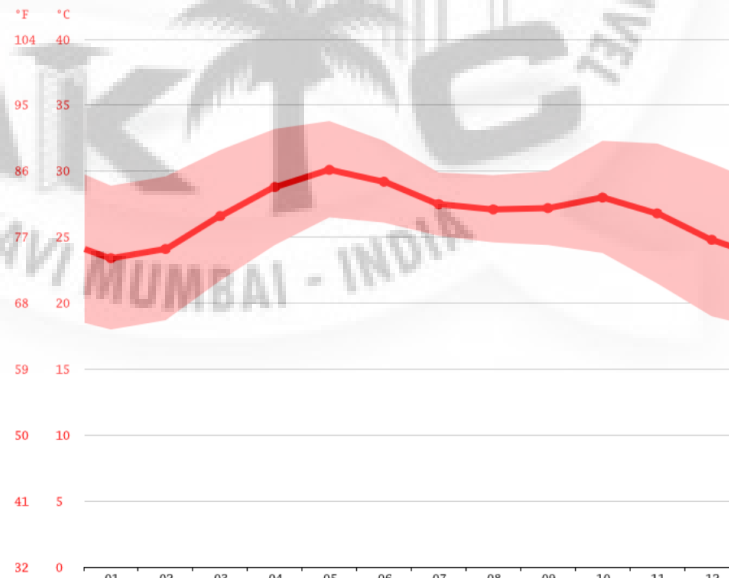
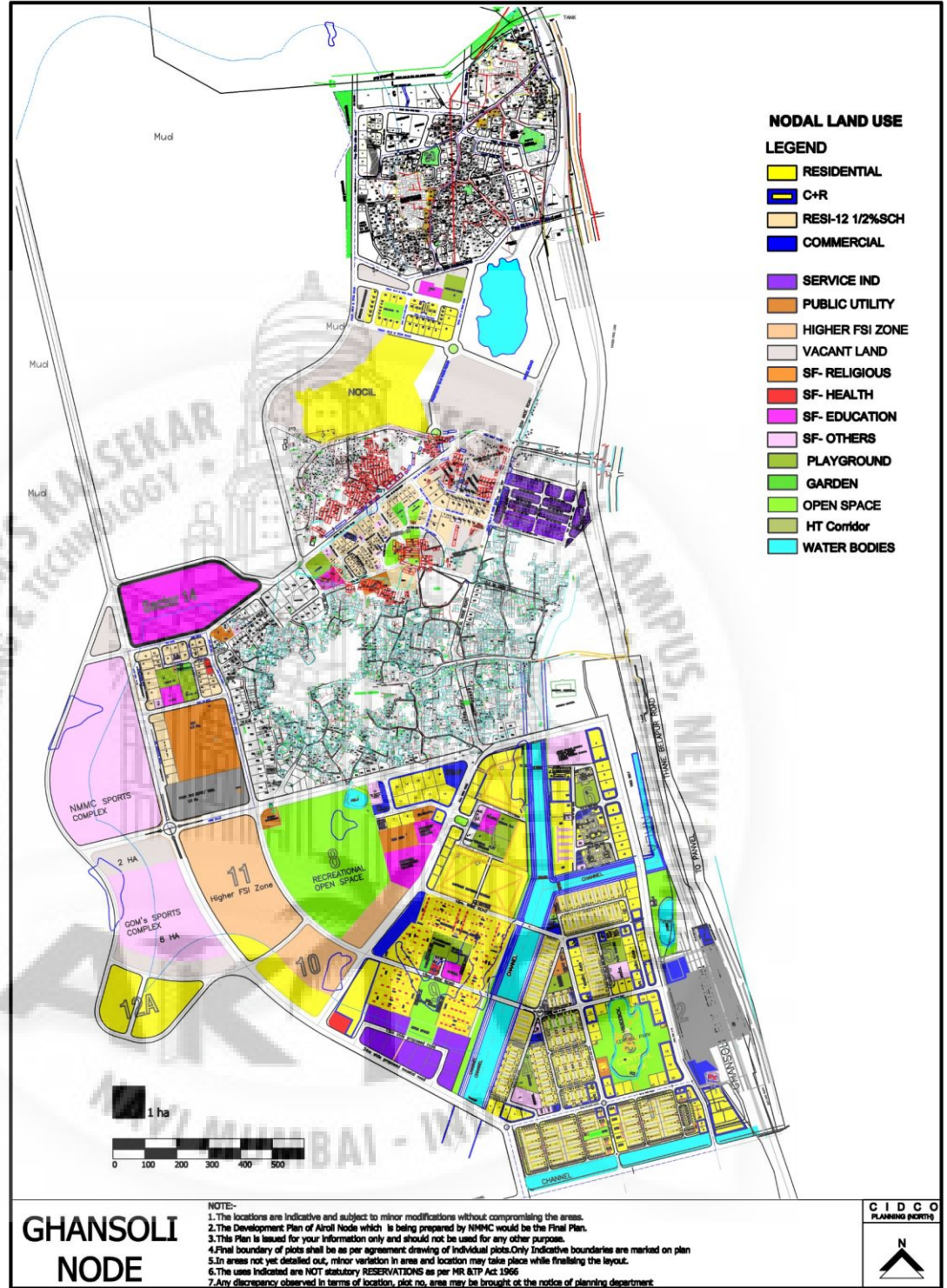


Fig 23.

- The temperatures are highest on average in May, at around 30.1 °C | 86.2 °F. January has the lowest average temperature of the year. It is 23.4 °C | 74.1 °F.

6.5 Development Plan of Ghansoli :



6.6 Space Program :

• FUNCTIONS :

Entrance Lobby
 Ticket Counter
 Parking Lot
 Admin
 Surveillance Room
 Cafe
 Sports Exhibition
 Sports Screening Zone
 Seminar Hall
 Medical Facility
 Storage Room

• FORMAL ACTIVITIES :

Soft Turf (Football / Cricket)
 Hard Turf (Basketball / Tennis / Badminton)
 Locker Rooms

• SPORTS TRAINING INSTITUTE :

Admin
 Registration Desk
 Classrooms
 Medical Facility
 Gymnasium
 Seminar Hall
 Canteen
 Staff Room
 Storage Room
 Changing Rooms

1. Outdoor Sports :

Football Turf
 Basketball Turf
 Cricket Ground
 Kabbadi Ground
 Long Tennis Court

2. Indoor Sports :

Chess
 Carrom
 Archery
 Table Tennis
 Badminton
 Martial Arts

• INFORMAL ACTIVITIES :

Multi - Activity Court
 Children's Play Area
 Running Track
 Open Gym
 Multipurpose Arena
 Amphitheatre
 Concert Arena

Bibliography

- Rakesh Ghildiyal.2015.
Role of Sports in the Development of an Individual MSM
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4381313/#:~:text=Sports%20helps%20an%20individual%20much,just%20to%20name%20a%20few.>
- World Health Organization. 26 November 2020
Physical Activity
<https://www.who.int/news-room/fact-sheets/detail/physical-activity>
- Basicell.
Sports field name
<https://www.basicell.com/general-knowledge/sports-players-groundnames.html>
- Jasmin Bhawra , Ranji Harish .2018.
India's 2018 Report Card on Physical Activity for Children and Youth
Journal of Physical Activity and Health
<https://journals.humankinetics.com/view/journals/jpah/15/s2/article-pS373.xml?content=fullHtml-6977>
- Anuradha Mascarehnas . November 22- 2019.
India ranks 8th in WHO study on physical activity among adolescents:
<https://indianexpress.com/article/india/who-india-physical-activity-report-6131100/>
- Jasmin Bhawra , Ranji Harish .2018.
India's 2018 Report Card on Physical Activity for Children and Youth
Journal of Physical Activity and Health
<https://journals.humankinetics.com/view/journals/jpah/15/s2/article-pS373.xml?content=fullHtml-6977>
- International institute of sports management .4 June.
India: Emerging As A Multi-Sporting Country!
<https://www.iismworld.com/india-emerging-as-a-multi-sporting-country/>
- The times of India .15 April 2018.
'Beyond Books'
<https://www.toehold.in/blog/times-india-children-physical-activity/>
- Shravan Nane. 30 October 2017.
Sports in India: Problems and reform measures
<https://www.jagranjosh.com/current-affairs/sports-in-india-problems-and-reform-measures-1508848667-1>
- Vijay Lokapally. 21 September 2019.
Sports Ministry to set up 20 national centres of excellence
<https://sportstar.thehindu.com/other-sports/sai-centres-of-excellence-kiren-rijju-nsfs/article29476548.ece>

Case studies reference:

- ArchDaily. Published on February 29, 2016
UVA El Paraiso / EDU - Empresa de Desarrollo Urbano de Medellín
<https://www.archdaily.com/782851/uva-el-paraiso-edu-empresa-de-desarrollo-urbano-de-medellin>
- ArchDaily. Published on October 08, 2019
Maryland Heights Community Recreation Center / CannonDesign
https://www.archdaily.com/926109/maryland-heights-community-recreation-center-cannondesign?ad_source=search&ad_medium=search_result_all
- ArchDaily. Published on October 10, 2018
Second Stage of Hangzhou Cloud Town Exhibition Center / Approach Design (ZUP)
https://www.archdaily.com/903443/second-stage-of-hangzhou-cloud-town-exhibition-center-approach-design?ad_source=search&ad_medium=search_result_all
- ArchDaily. Published on May 31, 2018
Lin'an Sports and Culture Center / Architectural Design & Research Institute of Zhejiang University
https://www.archdaily.com/895112/linan-sports-and-culture-center-architectural-design-and-research-institute-of-zhejiang-university?ad_source=search&ad_medium=search_result_all
- ArchDaily. Published on May 17, 2019
IIM Sports Center / Mindspace
https://www.archdaily.com/917189/iim-sports-center-mindspace?ad_source=search&ad_medium=search_result_all
- ArchDaily. Published on August 29, 2020
"Im Sand" Gymnasium / rhb architects
https://www.archdaily.com/946400/im-sand-gymnasium-rhb-architectes?ad_source=search&ad_medium=search_result_all
- World Architecture Community. Published on July 20, 2016
Umesh Yadav Sports Academy
https://www.archdaily.com/946400/im-sand-gymnasium-rhb-architectes?ad_source=search&ad_medium=search_result_all