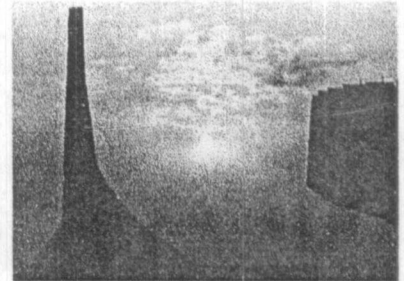


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and Economic
Component of a Country
with Special Reference to Sri Lanka.



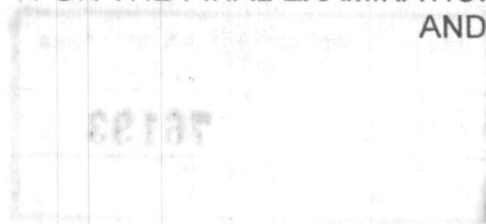
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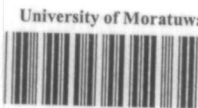
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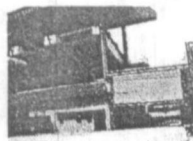


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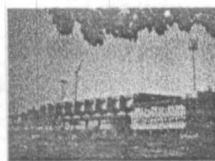


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ABSTRACT

In the pre- historic times man led a nomadic life style and earned his food mainly by hunting. But with the development of culture and with the development of societies, he no longer had to hunt for his food. He had ample time on his hands to do whatever he wishes. Sports filled in the void created in his life by not having to hunt anymore. Though he may never has understood, sports played a major role in men successful adaptation to the lifestyle of today, from that of his pre- historic, nomadic ancestors.

So it is no surprise that sports took such an important part in the socio-cultural development of a country. Through out the human civilization parallel with the socio- cultural and economic development, sports culture too developed. With the development of the sports culture, man started to build special spaces for sport activities. So began the long and wonderful history of sports stadia. Parallel to the various development areas of human history we can identify, various stages of stadia developments too. Different types of stadia developed as a result of different socio-cultural styles and trends of different ears and nations. This co-related development continued all the way through the modern world we live.in today. The connection between the society and its sports stadia has never been so strong in the entire history of human kind.

The stadium has become so important aspect of a society, that it is gradually taking over the importance so far held by the religious buildings. In the modern day world the sports stadium is not only a place where just 'sport functions' take place it is a major source of entertainment and social interaction. The stadia all over the world has developed with the city in a way, so that even the social economic sustainability of some cities depends on their stadia.

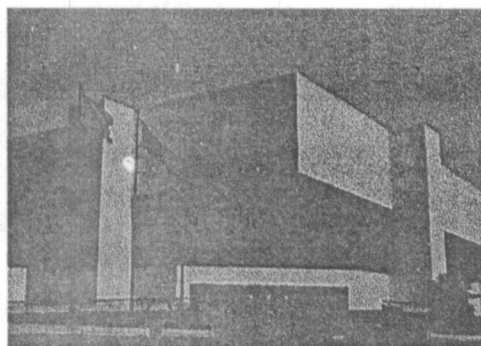
Our stadia have failed in this aspect, because of our architecture has so far failed to grasp the potentials of a stadium. Thus failing to character for those potentials. Therefore our stadia lack the necessary encouragements in its special

Abstract

progression or in its architectural language to make them places of social interaction, so our stadia remain, just as dead spaces within the cities, with no value to the society, culturally or financially.

But there are some exceptions to be seen, where some kind of socio-cultural and mix-use functions take place. Stadia like SSC have succeeded somewhat in becoming important social, cultural and economic centers in the cities, they belong to. They have managed to do so, simply because they have acquired mix-use capacity. These stadia are not just sport stadia, but cater to various social, cultural and economic needs of the society and they are in harmony with surrounding physical and social context. So they have become very popular social centers in the cities all year around.

We must understand to look at all the success and failures of the stadia in Global phenomenon and give the unique solution needed for design problem at hand. In other words mere replica, of however successful the original may be, want be a successful solution to a design problem they have to solve. When the architects of Sri Lanka managed to achieve this goal, our stadia too will be centers of important socio-cultural and economic growth. Thus creating a sustainable bond between city and the stadia.





INTRODUCTION

General Introduction

INTRODUCTION

INTRODUCTION

BACKGROUND OF THE ISSUE

Sports Stadia are essentially large theaters of entertainment, which ought to be as pleasant to visit as a cinema, opera house, or play theatre, whilst also being social and architectural landmarks in their towns and cities. The designers of per-modern Stadia rose to this challenge with admirable skill. The colosseum and circus of Rome, the amphitheater in Verona, and similar buildings throughout the Rome Empire played central role in the civic lives of their communities. Based on the circle and the oval, they were also wonderfully successful in translating functional requirements and the known building technologies of the time in to noble architectural form. The Architecture of sports facilities also has its own particular history, like the Architecture of religious buildings. Also Stadiums have its own Typologies, Techniques, Requirements and Issues etc. Stadium is a type of Building, which thousands of people get together and share the primal things are in play such as Courage, Passion, Perfidy, Endeavor and Fear etc. Even though in last few decades, the outstanding building type in the World was religious nature, now it's becoming the architecture of mass sports called large Stadia.



Fig .0.0.1 Courage, Passion, Perfidy, Fear and Endeavor

Design and Construction of a Stadium involves more than construct a simple building. It represents the importance of sports in our culture. Although it

express the Socio- cultural, Economic, Political and Religious aspects of a country, the history of stadium construction is thus not only interesting as a series of architectonic highlights, but also as a reflection of culture and social development of a country. It is now more than a Centaury from first modern Stadia started appearing in Victorian Britain, in London, Glasgow, Liverpool, and the Midlands. In 1896 the modern Olympic events was born in Athens. Since then the Stadium has evolved in to one of the great public building form of the twentieth centaury, regarded, at its best, as an essential and positive element of civic life. Indeed for many individuals, the Stadium and the great performances it encompass provide a single most important focus of community or national pride. After a centaury of gradual change however, the last decade or so has been the Stadium rapidly take on a number of wider and more sophisticated roles.



Fig .0.0.2 Johannesburg Stadium in Johannesburg, South Africa; designed, in its own way, to revitalize a section of the city



Fig .0.0.3 Urban renewal in Seoul (Seoul Olympic village). Seoul spent \$1.66 billion for facilities directly related to the Olympics and a further \$1.35 for the improvement of sanitary facilities infrastructure and the urban environment in general.

With the industrial revolution rapid changes were happening all over the world in many sectors. Infrastructure facilities were developed and technology was rising up swifter. Lifestyle was become complicated and comfort people could earn more and had some spare money for recreational activities. And recreation has become a part of the life. Watching competitive sports events was one of the interesting sport activities among the people. Meantime sports were codified and it was become a spectators' exercise and that leads spectators want to go to watch these events. The British codified some famous events such as rugby, soccer and cricket etc. During the nineteenth century, the first generation of Stadia evolved out of that simple requirements allowing people to field or a stadium bowl and therefore the finance of these buildings more totally structured around how much money you could get people to pay to see your event. These Stadia were about allowing people to come in, taking money off them at the gate, letting them sit down, watching an event, and then go home again, and that was it.

In 1937 the first television broadcast on sports event was taken place and Stadia managers had to do something more than a conventional stadium to get the attraction of the people. So that the Second generation of Stadia came out of influence with the television and added some basic facilities such as Toilets and F & B outlets etc, on the concourse, was become something more than just sitting and watching and sitting sports. And it started to become a bit more of a Social event.

The next big change really happened in 1955, when Walt Disney opened his Disneyland in California. He publishes his theme that " All who enter here shall find Happiness and Knowledge". So it has become a turning point of the recreation as the entertainment marry with the wisdom. And the other important factor, which found at here, is the capacity to entertainment of whole family. As a result of this the limits of Stadia was exaggerated by adding some advanced facilities such as play spaces for kids, nice bars and live etcheteras, multiplex cinemas and information centers etc.

The year 1969 was a pretty amazing year for the whole World as the man walked on the moon for the first time. Jumbo Jets were flying in the sky with hundreds of people. And the development of technology rose up exploding its boundaries. The other most incredible thing happened in then was the three American Computers linked together and started the Internet. It was a decisive

point of the whole World. It caused to change the life pattern of the mass dramatically. It is changing sport out of all recognition of anything have ever seen before.

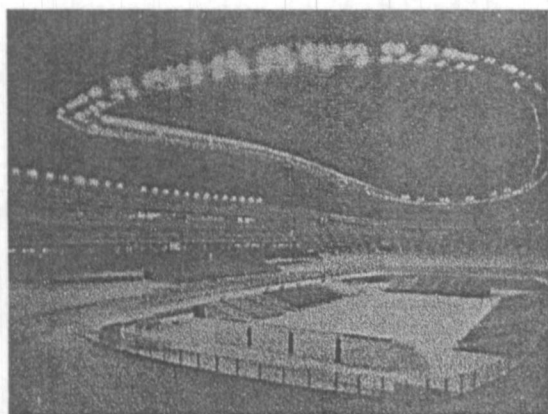


Fig .O.O.4 Kitakyushu Media Dome in Fukuoka, Japan. More than any other sports stadium, the Media Dome is a blend of Media and Sport.

. The Digital Information Technology clearly indicates of a need of another generation of Stadia and the fifth generation of Stadia was began with very sophisticated facilities and modern equipments such as digital score boards, replaceable pitches, flood lighting systems for day and night plays and advanced audio visual systems etc. there were the places of providing the best conditions for athletes as well as very much comfort for the spectators. Unlike the first three generations, the fourth generation, for the first time identified that there are two types of audiences in and out such as the live audience and the remote audience. The remote audience is sitting in their living rooms and watch an event that playing at the other end of the world, simply and comfortably and hearing to the live commentary with expertise ideas too. Some are think it is relax to stay at home with the family and see the event on the television as it save their time and their fuel wasting in traffic jams. The forth generation Stadia are more technical and technological; lot of remote digital cameras and sound systems in the pitch and a fiber optical backbone runs through the whole building. The event that takes place on that piece of ground is packaged and send around the World in different formats and different ways by growing its remote audience gradually bigger and bigger. However it is a kind of tremendous achievement, because it made the opportunity to see the last Olympic events live for the people in all over the World with out considering their income level. But there is no Passion, Atmosphere, and

Connection to the Event and no contribution to improve social and community life of a country.

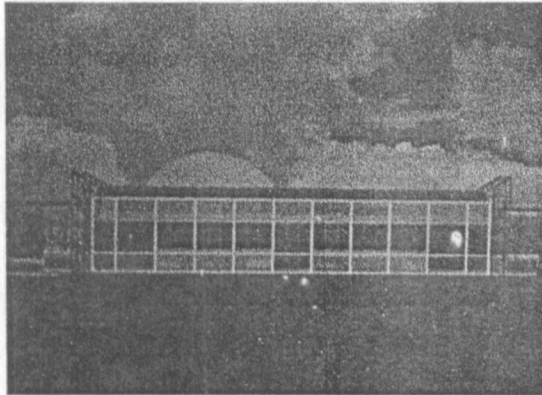


Fig .O.O.5 Johannesburg Stadium in Johannesburg, South Africa

And involvement of technology for more than its limits may resulting to put the players in to a big shed tin just doing there bit and send that signals to a main processor which create the game and broadcast to the remote audience as a virtual real. It can be possible, because a big money involving to develop the technology as it more attractive amazing, but there is again no passion, no atmosphere and no connection to the event.

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By considering all that historical facts and evolution pattern of the Stadia it is clear that we have come to the next tuning point of the Stadia. On the other hand we are in the beginning of the Fifth Generation of the Stadia, which may be more complex to handle than all other Generations before. So it may be a tremendous challenge in front of the Architects how to use the Twentieth Centaury technology to develop the Architecture of Mass Sports, which allows people to enjoy the event and to enhance the passion to some extent.

THE ISSUE

As explained above the stadiums of the modern word concern about not only the best conditions for sportsmen, but also giving every comfort for spectators as well, for in the modern-day world not only the player, but the part of the passive participant too has become most important. In fact in the present situation a sports

stadium simply cannot survive without the passive patricians of the society. In other words a modern stadium is not merely a sports field but a socio-economical center of a city, which can hold in its grasp, the very survival of both the stadia and its city.

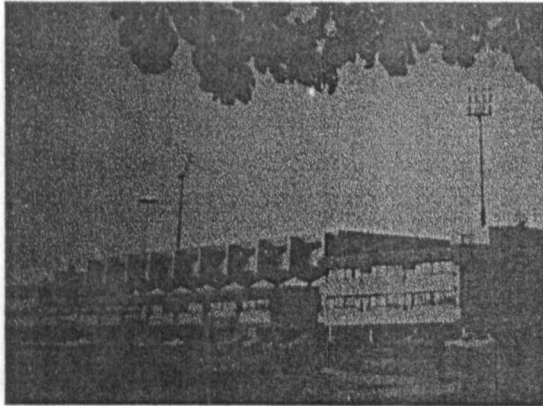


Fig .O.O.6 Stadion Galgenwaard in Utrecht, Netherlands. The success of the original multifunctional approach is demonstrated by the rise in the number of square meters commercial space and the addition of 48 hospitality boxes.



Fig .O.O.7 Sugathadasa Outdoor Stadium in Colombo, Sri Lanka. Covered with a long boundary wall

But has modern Sri Lankan stadium designers managed to grasp this very important fact? Has our stadiums managed to keep up with this trend? In fact they are still left behind in an era that is closer to the starting end of the history of stadia than to the finishing end. So sadly, today they have become socio-culturally and economically dead spaces within our cities. This phenomenon poses a grave danger not only to the economy of the stadia and city, but to the socio-cultural stability of the city's inhabitants as well.

RATIONALE

Because of the lack of means to acquire necessary funds to sustain the stadiums in the 'off seasons' most of our stadiums faces the danger of extinction. In times without any sporting activities, which usually are a major portion of the year, they become just dead spaces, which take up valuable land of the city, and bring in a look of gloom to the environment. For the larger period of the year people are left without the most important means of socio-cultural interaction. This could ultimately lead to socio-cultural and economical bankruptcy of the city, which will destroy the city and its inhabitants.

Therefore it is of utmost importance that a thorough study would be done to identify the issue its scope and its causes, thus making it possible to take counter-active measures.

OBJECTIVES

To identify the issue, its causes and its scope, in order to take up successful steps to eradicate the issue, thus bringing in sustainability to our sports, stadiums, and also to the economy and the socio-cultural progression.



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CHAPTER ONE

Historical Background

CHAPTER ONE

INTRODUCTION

The theatre is an important building type of which the seeds had been sown by the end of the Fifth Century BC, but which achieved its finest flowering in the Fourth Century and later. The essence of the Greek theater is the orchestra; a dancing place, a circular piece of ground on which the actors and chorus performed alternatively. The spectators sat on a rocky slope overlooking this since Greek theaters, which were constructed on hilly sides. The prototypal Greek theatre was that dedicated to Dionysus on the slopes of the Acropolis in Athens. It had become the custom by about the later fifth century BC to erect wooden scenery against the back wall of a long thin stoa, which stood between the orchestra and the adjacent temple of Dionysus, the god to whom the plays were offered. This stoa, which may date from the fourth century, became the origin of the foyer of all subsequent theatres down to our own age. Later, perhaps as early as the end of the fourth century BC, the wooden scenery was replaced by a permanent stone structure or scene-building, while a semi-circle of stone seating for as many as 17,000 spectators replaced earlier wooden benches. The most beautiful as well as the best-preserved surviving theatre in Greece is that at Epidaurus, perhaps dating from c.300 BC. It is a vast symmetrical auditorium, rather more than semi-circular in plan, is divided by radiating stairways and, unusually, has two distinct slopes, the upper being steeper like in the stadia today.

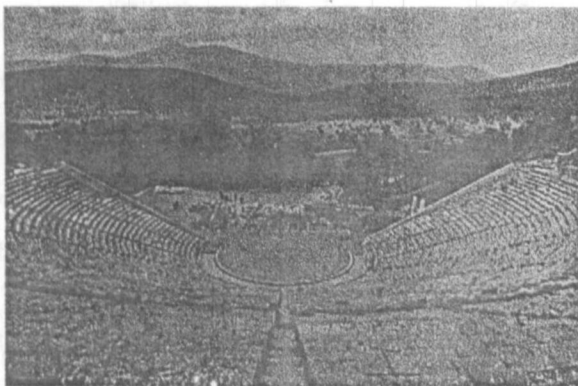


Fig. 1.0.1 The Epidaurus; The most beautiful, best-preserved surviving Greece Theater with two gradient sloping tier sets

In this Chapter, generally discuss about history of the modern sports facilities started with Olympics in 8th Centaury BC and Stadium Architecture started from the Hippodrome in the ancient Greece. In that period they were used as open theatres for dancing in Greece and for Gladiatorial activities in Rome. Because of that the theaters in Rome generally had to have the ground at little deeper elevation than the spectator seating. So, the Greece Epidaurus is more genetic to the modern Stadia than Colosseum in Rome.

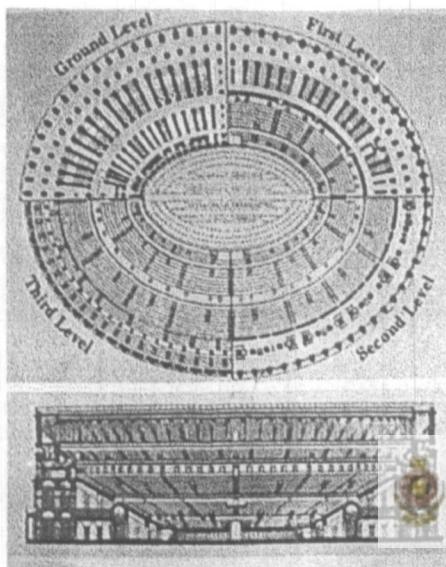
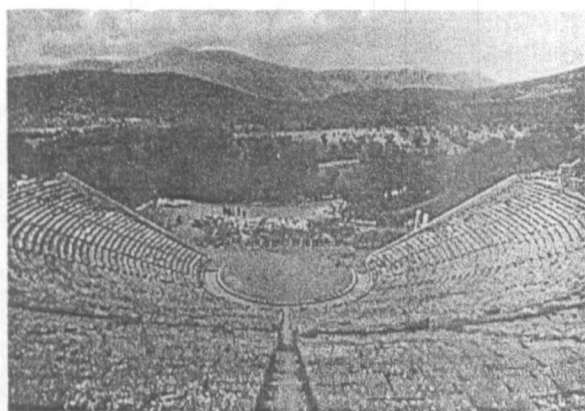


Fig. 1.0.2 The Colosseum in Rome.

CHAPTER ONE

1. 1 HIPPODROME : THE ANCESTOR OF THE MODERN STADIA.

The ancestral prototypes for modern sports facilities of all kinds are the Stadia and Hippodromes of ancient Greece. Here Olympic and other sporting contests were staged, starting in the eighth century B.C. Greek Stadia were laid out in a U-shape, with the straight end forming the start line. These Stadia varied somewhat in length, the one at Delphi being just under 183m long and that at Olympia about 192m. Such Stadia were built in all cities where games were played. Some, following the pattern of Greek theaters were cut out of a hillside so that banks of seats with good sightlines could be formed naturally, while others were constructed on flat ground. In the latter case the performances area was sometimes slightly excavated to allow for the formation of shallow seating tiers along the sides. Stadia built on the flat existed at Ephesus, Delphi and Athens. The one at Delphi was almost 183m long by 28m wide, had a shallow bank of seats along one side and around the curved end, and the judges' seats were at the midpoint of the long side very much as in modern facility.



*Fig. 1.1.1 Amphitheater in
Epidaurus
c.300 BC*

The Stadium at Athens was first built in 331 BC, reconstructed for the first time in AD 160 and for second time 1896 for the first modern Olympic games. In this form it can still be seen, accommodating up to 50,000 people. Hillside Stadia existed at Olympia, Thebes and Epidaurus, and their kinship with the Greek theatre is unmistakable; this are essentially elongated theatres for the staging of spectacular

unmistakable; this are essentially elongated theatres for the staging of spectacular physical feats, and from them runs a direct line of development firstly to the multi-tiered Roman Amphitheatre and ultimately to the modern Stadium. The civic importance of such sporting facilities in Greek life is demonstrated particularly well at the ancient city of Olympia on the island of Peloponnesus. The site housed a great complex of temples and altars to various deities and, at the height of its development, was rendezvous for the whole Greek world. There was a sports field situated adjacent to an enclose training gymnasium, and along the edge of the field a colonnade with stone stepping to accommodate the spectators.



Fig. 1.1.2 Olympic stadium in Athens
First modern Olympic
games-1936
Capacity 50,000



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As the track became more popular, two stands were constructed, facing each other on opposite sides of the activity area. The fully developed stadium consisted of a track 192m long and 32m wide with rising tiers of seats on massive sloping earth banks along the sides latter ultimately accommodating up to 45,000 spectators. The stadium had two Entrances, the Pompic and the Secret, the later used only by the judges. Adjacent to the stadium at Olympia was a much longer hippodrome for horse and chariot races, and in these twin facilities we may clearly discern the embryonic forms of modern athletic Stadia and racing circuits. The stadium has been excavated and restored and can be studied, but hippodrome has not survived. While modern large capacity, roofed Stadia can seldom have the simple forms used in ancient Greece, there are occasions when the quiet response of these beautiful antecedents could be emulated. The essential points are unobtrusive form and use of natural

materials, which blend so closely with the surrounding that it is difficult to say where 'landscape' ends and 'building' begins.

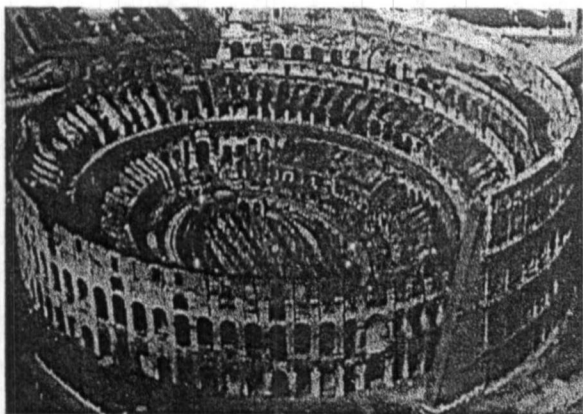


Fig. 1.1.3 *Amphitheatrum Flavium*
(Colosseum), Rome, Italy.
72-80 AD
Capacity: 50,000

The militaristic Romans were more interested in public displays of mortal combat than in races and athletic events, and to accommodate this spectacle they developed a new amphitheatrical form; an elliptical arena surrounded on all sides by high rising tiers of seats enabling the maximum number of spectators to have clear view of the terrible events staged before them. The term 'Arena' is derived from the Latin word for 'sand' or 'sandy land', referring to the layer of sand that was spread on the activity area to absorb spilled blood. The size of the later Roman amphitheatres ruled out any reliance on natural ground slopes to provide the necessary seating profile, therefore Romans began to construct artificial slopes around the central arena. First they have been made by timber, but were not more durable and, starting in the first century AD, in stone and concrete. Magnificent examples of the latter may still be seen in Arles and Nimes (stone) and in Rome, Verona and Pula (stone and form of concrete).

As the Greek theatre led to the Roman amphitheatre, so the Greek hippodrome led to the Roman circus. These circuses were U-shaped equestrian racecourses with the straight end forming the entrance and accommodating the stalls for horses and chariots. A 'spina'-a low wall decorated with carvings and statues separated the starting and return courses. Seats rose in tiers along the straight sides of the U and round the curved end, the lower seats being in stone and reserved for members of the upper classes, the upper seats made of wood. A notable early

example was the Circus Maximus in Rome (4th century BC), followed in 46 BC by a successor of the same name.

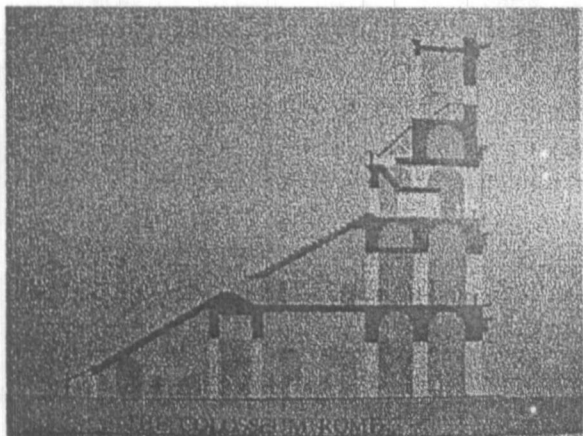


Fig. 1.1.4 Section of the Colosseum in Rome

This was possibly the largest Stadium ever built. It was around 660m long 210m wide and offered all-seating accommodation for spectators in three tiers parallel to the track. Other roman examples include the Circus Flaminius (3rd century BC) and Circus Maxentius (4th century AD), the latter being the only Roman circus still extant today. Outside Rome were the Byzantium Hippodrome of the second century AD (based on Circus Maximus) and the Pessinus Hippodrome which was unique at the time in consisting of a Greek theater and a Roman hippodrome linked at the center of the hippodrome via the theatre stage. Two events could be staged separately in theatre and hippodrome, or the latter could be used in combination for a single grand event. This building was an obvious ancestor of the modern multipurpose stadium complex.

As Christianity swept through Europe the emphasis of society shifted to religious salvation, and Architectural effort was turned to the building of churches rather than places of recreation and entertainment. No major new sports Stadia or amphitheatres would be built for the next fifteen centuries. Sports buildings inherited from the Roman era became neglected. Some were converted to new uses as markets or tenement dwellings, the amphitheatre at Arles, for instance, being transformed in to a citadel with about 200 houses and a church inside it (build partly with stone from the amphitheatre structure); many other were simply demolished.

During the renaissance and after, competitions on foot or horseback were held in open field or town squares, sometimes with temporary stages and covered areas for important spectators rather along the lines of the first Greek hippodromes- but no permanent edifices were erected even though deep interest were taken in classicism and in the Architecture of Stadia and Amphitheatres.



CHAPTER ONE

1.2 ATHENS : THE GENESIS OF THE MODERN OLYMPIC MOVEMENT

The Stadium as a building type saw a revival after the industrial revolution. There was a growing demand for mass spectator events from the public, there were entrepreneurs who wished to cater for this demand and there were new structural technologies to facilitate the construction of Stadia or enclosed halls. A particularly important impetus came from the revival of the Olympic tradition at the end of the nineteenth century. At the instigation of Baron Pierre de Coubertin a congress met in 1894, leading to the first modern Olympic games being staged at Athens of 331 BC, which had been excavated and situated by a German Architect and Archeologist called Ziller, was rebuilt to the traditional Greek elongated U-pattern, its marble terraces accommodating about 50,000 spectators. Thereafter, Olympic games were held every four years, except when interrupted by war, and those, which produced notable change or advances in stadium designing



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*Fig. 1.2.1 Athens Stadium
Renovated in 1896 for
First Modern Olympic
games.*

The first purpose-designed functional modern Olympic Stadium was opened in 1908, called White City Stadium in London. It could be accommodated over 80,000 Spectators. The arena was gigantic by the standards of today accommodating a multitude of individual sports and surrounded by a cycle track. It was subsequently decided to reduce the number of Olympic sports, partly to give a smaller arena. In

later years White City stadium became increasingly neglected and was finally demolished in 1980s. In summing up the London experiences and looking ahead to Stockholm in 1912, Coubertin anticipated later critics:

It will be necessary to avoid attempting to copy the Olympic games in London. The next Olympiads must not have exactly the same character; they must not be so comprehensive. There was altogether too much at London. The games must be kept more purely athletic; they must be more dignified; more discreet; more in accordance with classic and artistic requirements; more intimate and, above all, less expensive.

These were all clues, some cryptic, to the increasingly important role that architects would play in preparing the settings for future games. After that the new athletic stadium at Stockholm was designed by architect Torben Grut and constructed aimed tall conifers in a northern suburb of the city. Grut's plan was a closed horseshoe, better proportioned than the stadium at Athens and far more intimate than huge oval at London. The Stockholm stadium's 22,000-seat capacity made it the smallest Olympic stadium ever built.



Fig. 1.2.2 Ice Hokey Dome
at Stockholm.
Olympics in 1912
Capacity ; 22,000

Owing the First World War the 1916 games did not take place, but a stadium with a capacity of 60,000 had been built in 1913 in Berlin in anticipation of these games. Its interest lies in its pleasantly natural form; like the theaters and Stadia of ancient Greece it is shaped out of the earth, blending quietly into the surrounding

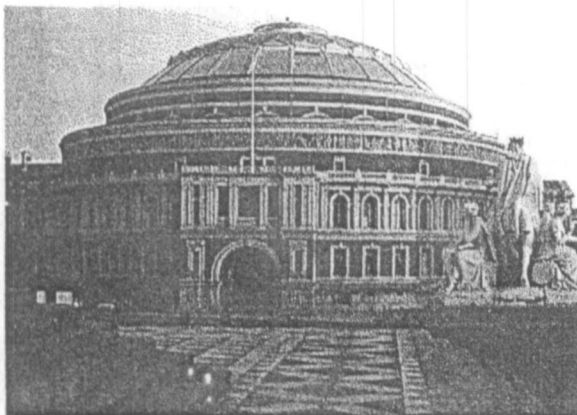
landscape and making no monumental gestures. The architect of Otto March, and this stadium formed a prototype for the numerous Sport-parks built in Germany in the 1920s. In 1936 the city of Berlin did finally host the Olympic games. The Nazis had recently assumed power and used the occasion to extend the stadium of 1913 to a great oval structure accommodating 110,000 spectators and it was a highly impressive design of the Architect Werner March. The 1948 Olympics returned to London, where the 24-years old Wembley Stadium was renovated by its original designer sir Owen Williams.



*Fig. 1.2.3 Wembley Stadium,
London
Olympics in 1948*



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*Fig. 1.2.4 Royal Albert Hall,
London.*

The 1960 Olympiad in Rome marked a new departure. Instead of staging all events on a single site as before, a decentralized plan was decided upon, with the athletics stadium in one part of the city and other facilities some distance away on the urban outskirts, and this way to remain the preferred approach for decades to come.

Two of the fully enclosed smaller halls dating from 1960 are architecturally significant; the 16,000 capacity Paiazzo dello Sport and the 5,000 capacity Palazzetto dello Sport. Both are circular and column free halls, which combine great visual elegance with functional efficiency.



Fig. 1.2.5 Stadio Flaminio in Rome, Italy. Olympics in 1960.

The Olympics in 1964 was held in Tokyo. The Jingu National Stadium, first built in 1958, was extended for the occasion but, as in Rome, two smaller fully enclosed halls caught international attention. Here 4,000 spectators could sit under one of the most dramatic roof structures ever devised. Series of steel cables were draped from a single tall mast on the perimeter of the circular plan, and concrete panels hung from the cables to form a semi-rigid roof structure. As built the roof forms of the two gymnasia may look natural and inevitable. In 1968 Mexico City was the Olympic host and rose to the occasion with several notable Stadia. The University Stadium, built in 1953 for a capacity of 70,000 spectators, was enlarged in 1968 to become the main Olympic stadium with 87,000 seats. It was basically an earth stadium like the 1913 stadium in Berlin barely rises above the natural landscape and hardly uses any reinforced concrete, blending smoothly in to its surroundings. In 1972 the Olympics return to Germany. The site formerly an expanse of nondescript land near Munich, was converted with exemplary skill to a delightful landscape of green hills, hollows, meadows and watercourses, and an existing heap of rubble became a small green hill. Perhaps in a conscious attempt to erase memories of the heavy monumentality of the 1936 Berlin stadium, a very expensive but delightfully

elegant lightweight roof was thrown over one side of the stadium and extended to several other facilities, creating an airy structure. The arena is embedded in an artificially created hollow so that the roof, which consists of transparent acrylic panels on a steel net hung from a series of tapered mats, seems to float above the parkland, its gentle undulations mirroring those of the landscape below.

The best of the above Stadia rise to the level of great Architecture, most notably perhaps the Rome, Munich and Tokyo buildings. And interesting Stadia were built for the games of 1976 (Montreal), 1980 (Moscow) and 1988 (Seoul) etc, as a result of great experiences had in past. As the above Olympic Stadia were being created, increasingly ambitious facilities were also evolving for specific sports such as football (soccer), rugby, baseball, tennis and cricket.

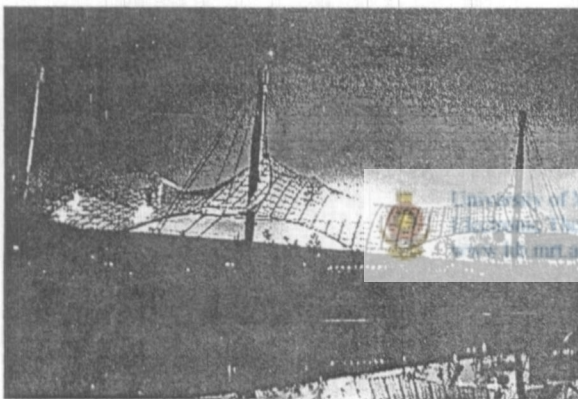


Fig. 1.2.6 Olimpiastadion, Munich, Germany. 1965-1972. Capacity: 74,000 Olympics in 1972

The Olympic games have now traveled practically around the world. In their wake they have left an array of sports buildings that, taken together, comprise the architects' unique and indispensable contribution to the success of the games. In their diversity, these buildings have helped to bestow on each Olympiad a distinct identity and character. And in fullness of their expressions, they have also provided modern architecture with one of its richer legacies. In spite of changing taste, Pier Luigi Nervi's two sports halls in Rome, for instance, are still widely cited as examples supremely logical and economic designs that added substantially to our understanding of our prefabricated concrete dome construction. Kenzo Tange's national gymnasium in Tokyo and the tent roof in Munich by Gunther Behnisch, Frei

Otto, and others, did more than merely advance our knowledge of the behavior of building surfaces in tension. These kind of bold and brilliant designs of Stadia have become important and highly conspicuous achievements in the history of twentieth century architecture. All the Olympic Stadia still stand; as milestones of Olympic history. The Athens stadium of 1896, never very satisfactory for athletics, now chiefly serves ceremonial and tourist functions.

It has become a new trend and a requirement to built a new stadium at every Olympic; most probably a completely new one with very different manner, once in four years at anywhere in the world. The Olympics, started from Athens resulted to position the Stadium architecture in to a completely diverse dimension and make the host country elaborated in all sectors; expose to the whole world.





CHAPTER TWO

**Stadium;
A Social Island, A Cultural village, an Economic center
and Entertainment factory.**

CHAPTER TWO

INTRODUCTION

Traditionally the sports Stadia was a modest facility with a capacity of perhaps a few hundred, serving a local community and forming part of the social fabric along with the church, town hall, and drinking house. As community grew later an more mobile, able and willing to travel great distances to follow their favorite sports, Stadia became larger and much of the new capacity was needed specially for Visiting Spectators. But, the presence of multitude of away supporters creates an additional problem caused controlling, which goes back to several decades backward and the crowd controlling was one of the major issues in Stadia design as we had lot of bad experiences in the past. It is preceded on a trial and error basis and finally began to evolve a more systematic understanding, which can be applied both to the design and the management of the Stadia. Nowadays the stadium has become a place or center with parcel of social, cultural and economic values other than the main function. It can be a venue for mass sports as well as a place for national or religious ceremony, which participate many thousands of people and sharing the emotions like pleasure, sorrow, uncertainty, fear and passion.



Fig. 2.0.1 Pleasure, Sorrow, Fear, Wonder and Dubiety.

The contemporary Stadia tend to be civic pride and symbols of countries probably represent the social, cultural and economic wealth of a country. Several

centuries ago the prime buildings were of a Religious nature such as temples, and cathedrals that can be admired even today. In twentieth century, specially over last fifty years the most important buildings have tend to be these new cathedrals that are the major Stadia, with gradual development of the Olympics. During the past twenty years the financial structure of professional sport has come increasingly to be dominated by television rights, the value of which has risen explosively. The global television audience has turned sports in to exceptionally lucrative market for sponsors and advertisers. Without this escalating flow of money, the new multi-purpose facilities of the 1990s might never even have been built this helps to explain why such Stadia, like the Amsterdam Arena and Stade de France (1998), should have acquired the character of shuttered, blank walled box that is totally impervious to its urban or spatial context. Finance is one of the major aspects, which influenced the stadium architecture and construction dramatically: the dollar is the bottom-line in all the facilities.



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Fig 2.0.2 Toronto Skydome
at Toronto, Canada.
1989.

At the beginning of the Twentieth century Stadia were constructed purely for the practice and watching sports and the facilities were limited to an informal hotdog stand and the place to meet the people was the bar at the corner. After the Second World War, people realize that the size and flexibility of a stadium,

and the crowd that attracted, made it suitable for all kind of other activities. The stadium was transformed from a temple of sport in to a multifunctional corporation. However the challenge of the architects is to meld the economic reality of these facilities with excellent design. As a result of this contemporary stadiums are become revenue-generating centers; involve big money and vast development. The Sky dome in Toronto, Canada (1989) is one of the biggest projects that subjected a vast surround for redevelopment and stir up the economy of the whole city. It forms part of part of an entertainment, shopping and business district, including the massive NC Tower and spent about CA\$ 2 billion making the area in to real tourist attraction.



Fig. 2.0.3 Amsterdam Arena at Amsterdam, Netherlands. 1993- 1996

The other fabulous case is the Amsterdam Arena designed by Schuurman and Soeters; is set in an area that was primarily a business district. The construction of the stadium has transformed the character and function of the district, turning in to a varied urban environment. The Arena forms the centerpiece for an area based on the American model. The Stade de France is considered to be an icon for regeneration. Articulation of different activities and uses together will attract daily crowd as a communal place. For a theatre or an art museum tend to attract a consistent, regular flow of people day by day; it becomes part of the fabric and that regular influx of people generates its own business and character. A well-designed and well-placed stadium is a powerful injection on the social fabric of a society.

CHAPTER TWO

2. 1 STADIUM AS A VENUE FOR WATCHING SPORTS

The primary function of a Stadium is to facilitate people to watch sports and organize them in a manner in order to maximize the opportunity, ensure their safety and giving all a similar chance to watch the event and it is a huge theater for heroic achievements and places to flow powerful civic architecture. Stadium is a kind of theater where the primal things are play-courage, passion, perfidy, endeavor, and fear; where grace and some times incredible gifts are passing in front of us. The first great prototype, the Colosseum in of Rome, did indeed achieve this ideal, but very few Stadia since then have succeeded as well. The worst are sordid, uncomfortable places, casting a spell of depression on their surroundings for the long periods when they stand empty and unused, in sharp contrast with the short period of extreme congestion on match days. The best are comfortable and safe, and offer their patrons an enjoyable afternoon's or evening's entertainment. Subduing the tiers of seating, the ramp or stairs, and the immense roof structure in to a single harmonious and delightful architectural ideal is a challenge that seems almost beyond solution, so that sports Stadia tend to be lumpy agglomerations of elements that are out of scale with their surroundings and in conflict with each other, and often harshly detailed and finished.



Fig. 2. 1. 1 The Spectator; The most important person in the Stadium

For any sport the designing of stand start and end with the spectators, and it is at this much-maligned figure that the planning team must look before anything else. And unlike in the past the Stadia users are wide ranged and different, have different motives, and that any crowd will contain a variety of subgroups with different reasons for attending. Some will have a primarily sporting interest, some a social reason for attending, and in some people the two interests are mixed. The first group can be found from the stands and the terraces in any event. For them 'live' sport at its highest level has an almost spiritual quality, an attitude aptly expressed in a statement once made by the great Liverpool football manager Bill Shankly: 'Football is not a matter of life and death; it is more important than that'. These fans are knowledgeable, respond instantly to every nuance of the action, offer advice to the players, and recognize the form, fitness and style of individual players and the effectiveness of strategies and tactics. The social priority group is found in the clubhouse, dining rooms and private boxes, entertaining or being entertained. The game is interesting, but interrupts the personal or business conversations and only briefly becomes the topic of interest. At the end of the game short post-mortem takes place so that all parties can hint at the depth of their sporting knowledge before resuming the business conversation. This group is usually well dressed because they will be interacting with other people to whom they must present themselves appropriately, whereas the 'sports priority' group dress casually as their interesting is only for the event.

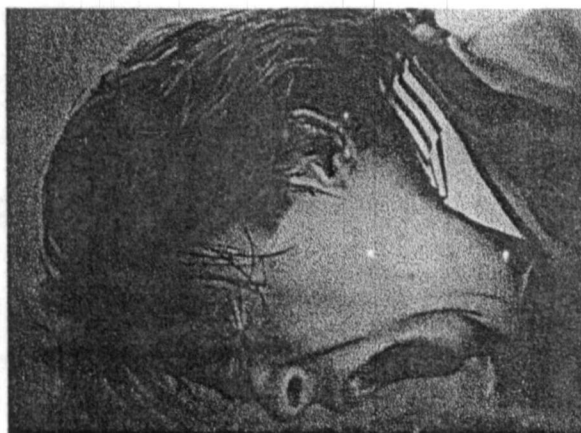


Fig. 2.1.2 The Player; There is no game without him

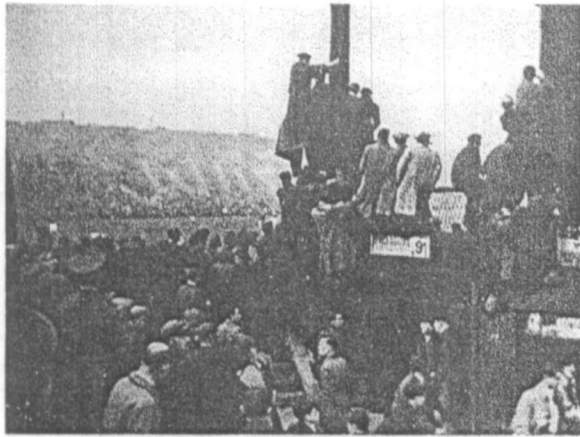


Fig. 2.1.3 Football is not a matter of life and death.

The third group contains elements of the previous two and tends to be fickle; these are the casual supporters who can be persuaded to attend if the conditions are right, but equally easily deterred, as everything depends on their perception of the event. When England was host to the World Cup Football, attendance in the UK reached about 29 million per annum, but it has declined to around 20 million at present. These fans are also deterred by discomfort, a perceived risk of violence or lack of safety.



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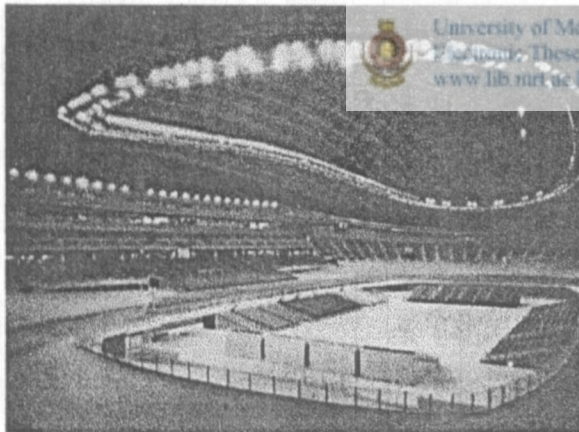
Fig. 2.1.4 Hillsborough Stadium Disaster in Sheffield, 15 April 1989. (93 were killed and 170 injured)

After the spectators the next most important category in the Stadia are the players or athletes because there is no game without them. But in sometimes it will be very difficult to make design decisions satisfying both players and financial requirements. If players require a natural grass pitch, but other design requirements such as a need for a multifunctional surface or fully enclosed roof, make a grass

surface unviable, the very difficult choice must be made about design priorities. For some sports a natural grass surface is obligatory-for instance football and rugby. For other it may not be obligatory but is still very much the preferred option for players. In all these cases it is merely the provision of the grass that is important, but also its condition at time of play. The playing surface is small ecosystem, which actively responds to changes in the environment: But in almost every Stadia the players and athletes are getting lot of facilities, comfort and benefits of the place.

The technology is the other most innovative factor makes Stadia and sports attractive tremendously and will revolutionize the management of Stadia. We already expect races to be timed to hundredths of a second, blood samples of players to be analyzed down to particles per million and video play-backs provided instantly. This is only the tip of the technological iceberg, which playing sports as well as watching sports make more logical. We are already benefiting from improved and faster construction techniques allowing open roofs, moving seating tiers and soon moving playing areas. The ling between natural grass and synthetic pitches may merge with developments in plastic mesh root reinforcement, plastic turf support and plastic granular growing mediums with computer controlled nutrient injection. New hybrid grass types require less light, grow faster and are far more robust. These advances allow a greater number of different types of events to take place in the same venue making it more financially viable. Technology will be used to improve the comfort level of both spectators and players. Spectators seats can be warmed by low voltage trace heating elements or chemical reaction tubes, perhaps even in concrete structure itself. Cooling can be by chilled air an outlet below the seats from high pressure chilled pipes and cool fans. Even the seats will be different, being ergonomically designed with soft graded plastics. These will give the effect of a padded seat but in a seamless and therefore weatherproof shell. In one arm will be the socket for plugging in personal handsets to listen to 'Stadium Radio' or 'Stadium Television' if the receiver is hired. As the average population size is increases the seat spacing will also increase and allow for slight adjustment of seat backs to suit the individual spectator. Pocket on the back of the seat in front will contain the free 'Stadium Catalogue' advertising products on sale by post or

from the Stadium Retail Center. Items may be ordered using the hand-held receiver hired for the day, purchases can either be waiting for you at the shop at the end of the match or delivered to your seat at half time. The year 1969 was a pretty amazing year for the whole World as the man walked on the moon for the first time. Jumbo Jets were fling in the sky with hundreds of people. And the development of technology rose up exploding its boundaries. The other most incredible thing happened in then was the three American Computers linked together and started the Internet. It was a decisive point of the whole World. It caused to change the life pattern of the mass dramatically. It is changing sport out of all recognition of anything have ever seen before. The Digital Information Technology clearly indicates of a need of another generation of Stadia and the fifth generation of Stadia was began with very sophisticated facilities and modern equipments such as digital score boards, replaceable pitches, flood lighting systems for day and night plays and advanced audio visual systems etc. there were the places of providing the best conditions for athletes as well as very much comfort for the spectators.



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Fig. 2.14.5

Kitakyushu Media Dome.

*The amazing technology;
spectator can follow every
detail of cycle race, sumo
wrestling match or concert
on the screen*

Unlike the first three generations, the fourth generation, for the first time identified that there are two types of audiences in and out such as the live audience and the remote audience. The remote audience is sitting in their living rooms and watch an event that playing at the other end of the world, simply and comfortably and hearing to the live commentary with expertise ideas too. Some are think it is relax to stay at home with the family and see the event on the television as it save

their time and their fuel wasting in traffic jams. The forth generation Stadia are more technical and technological; lot of remote digital cameras and sound systems in the pitch and a fiber optical backbone runs through the whole building. The event that takes place on that piece of ground is packaged and send around the World in different formats and different ways by growing its remote audience gradually bigger and bigger. However it is a kind of tremendous achievement, because it made the opportunity to see the last Olympic events live for the people in all over the World with out considering their income level. But there is no Passion, Atmosphere, and Connection to the Event and no contribution to improve social and community life of a country.



Fig. 2.1.6 AstroDome; The first Multi-function stadium in the world with fully covered roof. Socially and financially buttress sport and stadia

In 1950s sports grounds around the world were filled to bursting point at every match and watching live sport was a major pastime for millions. Now, only a few decades later, those same grounds are fighting for financial survival, and owners and managers search for solutions and truth is that it is now very difficult to sport stadium to be financially viable without some degree of subsidy, weather open covert. The best solution found, the stadia with Multi-functional component.

CHAPTER TWO

2. 2 STADIUM AS A SOCIO-CULTURAL AND ECONOMIC COMPONENT OF A COUNTRY.

In the Midwest of America, the people are crazy about American Football. But the football match is just one tiny bit a daylong event. When they wake up in the morning they pack their cars and coolers with foods probably more elaborate than any kind of dinner they have had all week long. They take their barbeques and they head off on the road and get to the parking lots; stake out their territories; erect tents and scaffoldings; put big flags on and put their cooking gear out. Then they bring their foods out and the beer. All these three or four hours before the game starts then all of their friends start to come, and some people even pull their vans up with televisions sets so that they can see the pre-game activities. On the other side there are VIP sponsorship tents. It's like a circus of tents with all the media sponsors inviting their corporate guests. They have catered affairs and drinks. Everyone goes in to the game, they have this incredible experience and start all over again after the game and do this till the sun goes down. It shows that sport how incredibly has influence the people's social and community life Sport is a significant component of the both Western and Eastern culture; participate almost all either in active or passive manner resulting emerge a sport Culture and sport Architecture.



Fig. 2.2.1 Amnesty International Rally

Designing of a stadium has become not an easy task as it involves not only very complicated modern structural systems but also with the social, cultural and economic affairs of the people. It represents the importance of sports in culture. Although it express the Socio- cultural, Economic, Political and Religious aspects of a country, the history of stadium construction is thus not only interesting as a series of architectonic highlights, but also as a reflection of culture and social development of a country. It is now more than more than a Centaury from first modern Stadia started appearing in Victorian Britain, in London, Glasgow, Liverpool, and the Midlands. In 1896 the modern Olympic events was born in Athens. Since then the Stadium has evolved in to one of the great public building form of the twentieth centaury, regarded, at its best, as an essential and positive element of civic life. Indeed for many individuals, the Stadium and the great performances it encompass provide a single most important focus of community or national pride. After a centaury of gradual change however, the last decade or so has been the Stadium rapidly take on a number of wider and more sophisticated roles.



Fig. 2.2 Opening Ceremony of World Youth Festival, Pyongyang, South Korea.

With the industrial revolution rapid changes were happening all over the world in many sectors. Infrastructure facilities were developed and technology was rising up swifter. Lifestyle was become complicated and comfort people could earn more and had some spare money for recreational activities. And recreation has become a part of the life. Meantime sports were codified and it was become a spectators' exercise; leading spectators want to go to these events as a part of their lifestyle. The British codified some famous events such as rugby, soccer and cricket

etc. During the nineteenth century, the first generation of Stadia evolved out of that simple requirement allowing people to field or a stadium bowl and therefore the finance of these buildings more totally structured around how much money you could get people to pay to see the event. These Stadia were about allowing people to come in, taking money off them at the gate, letting them sit down, watching an event, and merely go home. Thus the first generation Stadia seems not a well-developed community and cultural places or economic centers but they were good entertainment hubs.

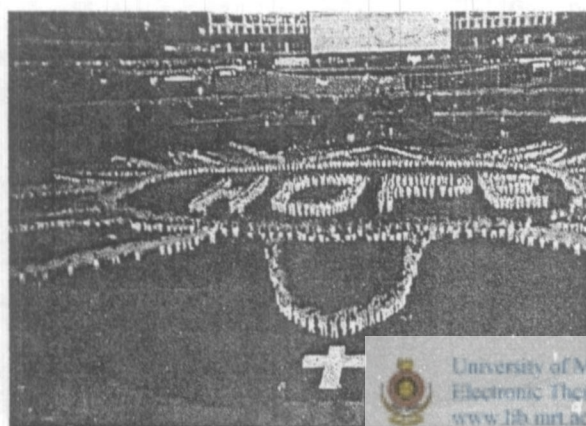


Fig. 2.2.3 Roman Catholic Mass in the Toronto Skydome

With the first television broadcast on sports event was taken place in 1937 the Stadia managers had to do something more than a conventional stadium, to get the attraction of the people. So that the Second generation of Stadia came out of influence with the television and added some basic facilities such as Toilets and F & B outlets etc, on the concourse, was become something more than just sitting and watching and sitting sports. And it started to become a bit more of a Social event. The Walt Disney opened his Disneyland in California in 1955 and He publishes his vision that " All who enter here shall find Happiness and Knowledge". So it has become a turning point of the recreation as the entertainment marry with the wisdom. And the other important factor, which found at here, is the capacity to entertainment of whole family. As a result of this the limits of Stadia was exaggerated by added some advanced facilities such as play spaces for kids, nice bars and live etcheteras, multiplex cinemas and information centers, transforming that seldom used concrete bowl in to a tremendous social, cultural, economic and

entertainment center. And involvement of technology for more than its limits may resulting to put the players in to a big shed tin just doing there bit and send that signals to a main processor which create the game and broadcast to the remote audience as a virtual real. It can be possible, because a big money involving to develop the technology as it more attractive amazing, but there is again no passion, no atmosphere and no connection to the event.



Fig. 2.2.4 Passion, Atmosphere and Connection to the event

In Europe Stadia are tending to become more multi- functional and different kind of people to be likely to visit these buildings. In early Nineties 'Entertainment Design' was begging in the America which means to have not only the sports there, but many event days as possible. Arenas are even completely enclosed so they have the most flexibility. However, it is all geared toward maximizing the facility that is so expensive to use. The most of Stadia not solely privately funded, they shared between private and public. That means the huge expenses have to be justified continuously and the entertainment design was bone out of helping justify the cost of these huge buildings. Stadia have become important building blocks around city centers and particularly in terms of regenerating parts of cities that have fallen in to disrepair. They are being used as magnet to bring people back in to that part of the city. So Stadia are becoming much more Urban Buildings, they are less about structural expressionism; they are more about fitting into the fabric of a city. In some cases the urban location demanded a different design in order to establish a connection with the surroundings. This involved an architectural element that Stadia

on the city outskirts had usually lacked; a façade. The Oriole Ballpark that is part of the Camden yards Baltimore, designed by HOK and opened in 1992, marked the start of this type of development. The old restored warehouses on this former industrial terrain form the backdrop for the stadium. Alongside the baseball stadium, Camden Yards also has an American football stadium, and these are the focal point of a completely new district with shops, offices and tourist attractions such as the national aquarium and Maryland Science Center, to the west of Baltimore's inner harbor. The district is a key element in the development of the coastline. The gateway center in Cleveland is very similar to Camden Yards. Instead of being part of a dockside area, it occupies a riverside position on the Cuyahoga. The development also includes two Stadia, restaurants, clubs, and no fewer than three museums. It gave Cleveland an opportunity to rid itself of the negative image: 'Cleveland was better known as the site of the Cuyahoga River which became so polluted with industrial waste that it once caught fire.

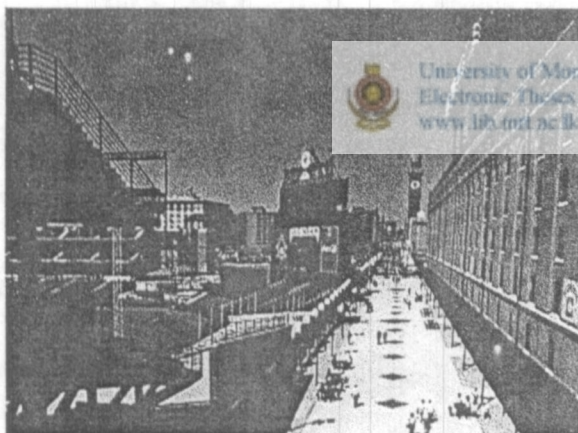


Fig. 2.2.5 Oriole Baseball Park at Camden Yards.

The Cardiff's Millennium Stadium (1999) designed by HOK and LOBB was decided to locate on an abandoned industrial zone on the banks of the river in the city center. The stadium forms the heart of an arena that is expected to give a new lease of life to the whole western side of the city by developing the waterfront. During the 1990s, the city of Genoa made every effort to give a positive twist to its image as an industrial city. As in Baltimore, the waterfront has been completely redeveloped for tourism, with one of Europe's largest aquariums and a harbor for

leisure craft. A new Stadium, which was needed for the Football World Championship in 1990, fitted in perfectly this urban renewal process. As with Monaco, Genoa has a lack of space, and the respective authority therefore decided to construct the new stadium on the site of the old one (1928), integrating part of old entrance in the new design.



Fig. 2.2.6 Olympic village in Seoul, 1988

The Charlety Stadium (1994) in Paris, designed by architects Henry and Bruno Gaudin, was a project that did not pretend to effect a wider regeneration. Nevertheless, it is extremely well integrated in the urban environment and has afforded the area around the Porte de Gentilly a new identity. The new stadium was built on the site of the demolished stadium (1938) and is situated on the edge of the city, where it is surrounded by a cemetery, a ring road and flats. Because it stands on a hill, it commands a view of the large office buildings around the Place d'Italie, the China Town of Paris. The Stadium is a part of a complex with offices, tennis courts, an underground sports hall, and a park. These sports facilities are used by the university sports club and because of this combination of functions; the stadium has been very successfully integrated in the urban fabric. The stadium is still rarely considered as a part of a complete entertainment factory, but Stadia are occasionally being designed to form the core of commercial district. The Ice Hockey dome in Stockholm, with its eye-catching design, is an early example. This constructed for 1989 World Championships, stands at the heart of a shopping center, offices, hotels and residential units that cover a total area of about 130,000

square meters. This combination of functions was the result of collaboration between the city and private investors. The construction of the stadium has transformed the character and function of the district, turning in to a varied urban environment that will provide space for offices, shops and entertainment.



CHAPTER TWO

2.3 MULTI-USE AND MIX-USE

At the beginning of the twentieth century, almost all the Stadia were constructed only for the practice and watching of sport and up till now the most of the Stadia were not much more than just simple concrete bowls with no favorable reputation, which is used perhaps very few events per year and in many cases about ninety percent of its lifetime may lie idle; resulting make it not very pleasant place and spectators have usually paid a lot of money to get in and need to enjoy themselves and also it affects on the social structure of the spectators. Thus the idea of multi-functional Stadium caused to change almost completely the social, cultural and Economic set up of the Stadia. The idea of Multi-use is to make the primary Stadium facilities in the way can be used for different purposes other than the main activity. For example a football ground can be used to play rugby game or a rock concert too. The Mix-use means the Stadium is embodied with different non-related activities such as theaters and cinemas, shopping malls, museums, food courts and restaurants, gardens, and kiddies play centers, which will attract a wider category, some times people who are not interesting to sports. The current trend of the modern Stadia of the future will be all about the facilities that are packed in to and around them and the effect these facilities have on their local environment. They are becoming buildings that are not just places where spectators go to, watch an event, and go home.

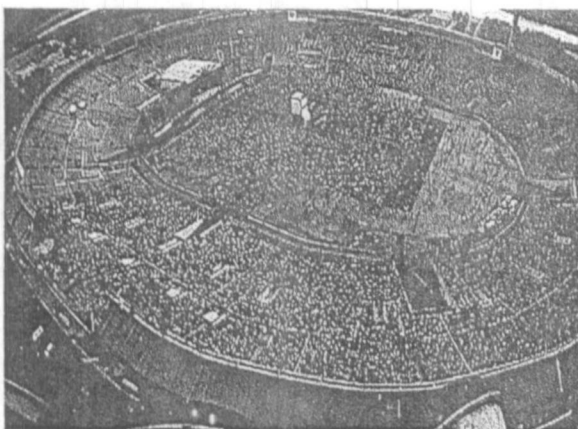


Fig. 2.3.1 Hard Rock Concert in the Lenin Stadium in Moscow.

These buildings are becoming sophisticated, and flexible and one of the conditions for smooth management of a stadium. Therefore it can be functioned more than five times of existing. For example the Olympic Stadium in Australia has had about 600 events for eight months after it opened in year 2000; not only on the pitch, but also in the banqueting halls and the concourses.

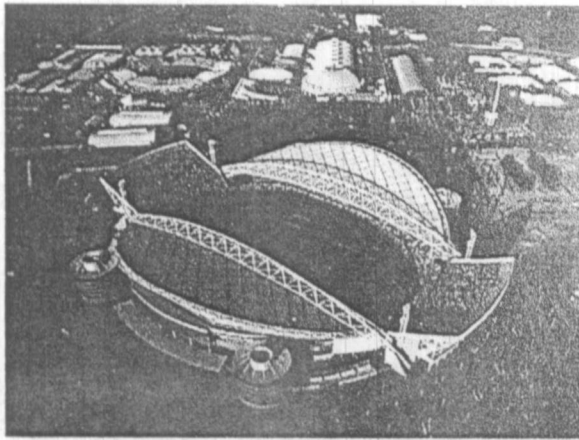


Fig. 2.3.2 Sydney Olympic Stadium in Sydney, Australia.

In the America several different approaches have evolved which combine functions on the same site. The two major stadium sports in the USA of American football and baseball do not coexist easily in a stadium unless the basic plan configuration can be change. Solutions sought are either as a dual use venue with movable seating, a double venue where two separate staida cohabit the same site or an attached arena for basketball and ice hockey. Often the European stadia accommodate an athletics track around the pitch and thereby provide a multipurpose facility although one which is heavily weighted towards financially. In the UK the separation of spectators from the playing field by a running track, effectively pushing them out by 10 or 12 m, has never gained acceptance. British football clubs pride themselves on providing a close concentrated atmosphere to watch the game and consequently forego the possibility of sharing their grounds with an athletic club. It is possible that by using movable seating tiers and other devices, the close football atmosphere and athletics can be made to work together. Multi-purpose stadium does not necessarily have to be on two sports. More commercial developments of the leisure industry can also be compatible. The

undercroft of a stand in Bristol, UK, successfully house an indoor bowling rink and extensions to the stadia at Sheffield Wednesday and Arsenal football clubs have accommodated training halls which double up as function rooms. Other ideas, which have been explored, are the inclusion of Television Studios, Cinemas, health centers, squash courts, swimming pools, hairdressing saloons and children's activity spaces. Utrecht Stadium in Holland has a substantial office building grafted to its side while the Hoosier Dome and a number of others in USA have enormous exhibition and conventional centers directly attached to the main stadium. There are no much sports, which can make a substantial subsidy to a stadium and if idle stadia are to become well used and profitable it seems that the emphasis in the additional accommodation should be on entertainment and commerce rather than sports.



Fig. 2.3.3 A Power boat Show at Toronto Sky dome at Toronto, Canada.

Multi-use and Mix-use should be designed for at an early stage as every different event and activities require different equipments and support services, which should included in to the fabric of the building from the start; can be expensive addition later and may not justify and may not justify the holding of the event. For example higher capacity of electric power may require for a pop concert or a strength support rings in the roof may needed for a circus. The concept of Multi-function is the primary reason to emerge stadia with totally covered roof structures over the ground. As a result of that it could be functioned without considering the weather condition of the external environment. The main intention of the multi-function stadia is to maximize the number of events. But it should be done while till

maintaining the core function of the venue. The USA has led the way in maximizing the number of events a stadium may accommodate per year. New covered venues in Europe are aiming for up to 250 event days per year where only 5-10 percent of them are football, usually the primary use of the European stadia.



*Fig. 2.3.4 Gelredome Stadium
Movable pitch rolled in to
the stadium, before a
football match*

Multi-function always should not be happening on the pitch, but it can include all the support amenities, which are normally contained inside the structure. Private or Hospitality boxes can be opened up to be used as banqueting rooms, or with the addition of a small shower and a folding bed could be converted into a hotel bedroom. Players changing rooms and training areas can become health clubs during the week and restaurants and lounges can become convention or conference centers. In attempting to provide a truly multi-use stadium as a way of ensuring the financial viability of the development, many ways of altering the structure on a temporary basis have been attempted. In recent years opening roofs and moving pitches also have been attempted, but the most common and most successful are movable, or at least retractable, seats. The most ambitious example is the Toronto Sky dome, which opened in 1989; designed by Rod Robby, built on the site of an old railway siding. It can be adopted for different configurations such as Auditorium with 10,000-30,000 seats, Hokey or Basketball court with 30,000 seats, Baseball ground with 50,000 seats, Football ground with 54,000 seats and various configurations allowing up to 68,000 spectators for rock concerts and other entertainments.

Alongside the sports accommodation there is a restaurant on three floors with a view of the pitch, a hard rock café, a multiplex cinema, a shopping center, a miniature golf course, and a hotel with 346 rooms, including 70 luxury suites with the spectacular view of the playing field. Of course these ringside suites has spawned tales about an amorous couple making love in front of the window, thereby attracting more attention than the players on the pitch.

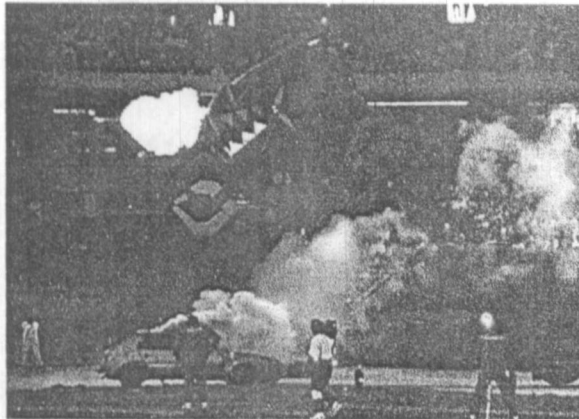


Fig. 2.3.5 Toronto Skydome as a Arena for Demolition Derby.

The Astrodome in Houston (1965) was an innovative project. As well as providing accommodation for different sports such as baseball, American football, and athletics, it could also host a whole range of events, as it was covered completely. It was also the first stadium in the United States with skyboxes, glass boxes with luxurious seats that were sold for a hefty premium to the privileged big-spenders.

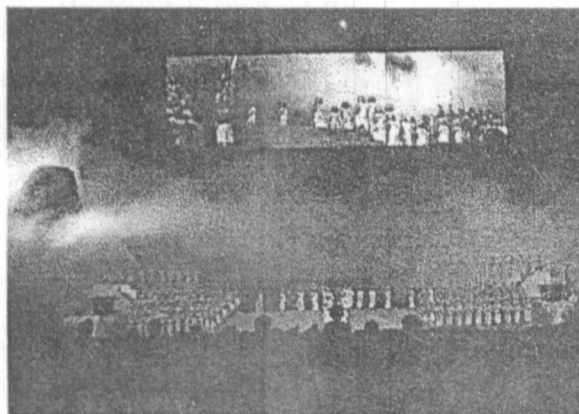


Fig. 2.3.6 Toronto Skydome stages the Opera.

One of the first European experiments on this kind of stadia was the Galgenwaard stadium (1977-1982) situated in the Utrecht. The stadium looks like a run-of-the-mill office building from the outside and provide accommodation for companies, with a view of the pitch. Although it is not the most elegant stadium in the world, it works surprisingly well.

The Louis ii stadium (1985) for 20,000 spectators in Monaco, designed by Henri Pottier, takes the notion of multifunctionality much further. It was necessary to construct it in the middle of the city, because Monaco simply has so little space available. Because of this prominent location, the exterior of the stadium was subject to strict programmatic requirements; each façade had to blend in with the surrounding buildings. And this did not only result in an exterior with such a unique form; the interior is spectacular too.



Fig. 2.3.7 'De Kuip' in Rotterdam as location for wedding photos.

The Metrodome is part of the comprehensive leisure complex, as are many other American Stadia. The stadium is surrounded by a 'Hall of Fame', restaurants and discotheques. Going to a sport event has become a whole day out. An additional attraction is an open space where people can set up their barbeques, play interactive games, or listen to a live band booked by the teams, and where are permanent sanitary facilities.

The concept of multi-function has become a very important tuning point of the stadium industry. It seems sound in stadiums making economically viable as well as socially acceptable. However, the most important thing is that it is going to transform a huge Dinosaur into pet puppy.



Fig. 2.3.8 Toronto Skydome at Toronto, Canada.

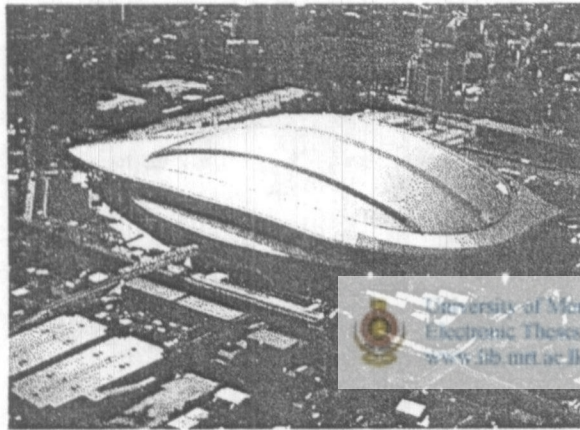


Fig. 2.3.9 Kitakyuhu Media Dome

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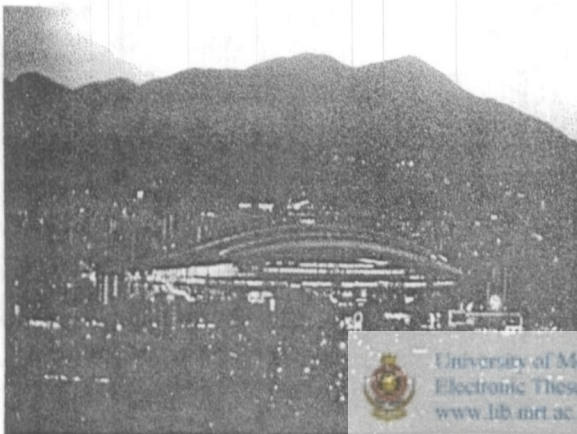
CHAPTER THREE

**Stadia in the world;
Architectural evaluation of Stadia as a Socio-Cultural and Economic
component of a country.**

CHAPTER THREE

INTRODUCTION

Stadia do not just play an economic, social and political role; they also have a symbolic function in the improvement of the city's image. Designing of a stadium involves a complex balancing of economic social and political objectives. They are used as pump-primers for the creation of recreation or leisure districts, as the first step in establishment of a new center of economic activity, or-as with the hosting of the Olympic games-as the pretext and opportunity for structural renewal of a whole city. The new stadium is not simply intended to herald a new period in a local sense, but it also meant to embody an international allure.



*Fig. 3.0.1 Kitakyushu Media Dome
at Fukuoka, Japan.
1996-1998*



*Fig. 3.0.2 Olympic Village in Seoul
1988*

The fifth generation of the Stadia is just about to born. It seems to be more about the technology than architecture. The virtual spectator has come to the seen; computerize hatch racing one of the contemporary example for that. In

very recent future a stadium may not be needed at all create game and broadcast it through the mass media all over the world. The computers will be used to make computer models of football, rugby or cricket player with the cloths which are electronically tagged, so the computer knows the every movement of the player at every time. At the end the only thing, which needs to create a game, is a big tin shed with these players just doing their bit and that signal being distributed. For development of technology involves big money and it obviously attractive. But there is no atmosphere, no passion and no connection with the event, which is the most important, and the spiritual part of the sport. The responsibility of the architects at this moment is to not let sport drift into a black box, but develop the type of building that allows people to enjoy the event and to enhance the passion to some extent and all about creating an event arena where everybody can come. It should be a place which, they can all have a great day but somewhat different; they all feel safe and secure, but most importantly; out of that comes a huge sense of connection with the event and a huge amount of passion.



Fig. 3.0.3 Sense of connection with the event and a huge amount of passion.

Stadia have becoming important building blocks around city centers and particularly in terms of regenerating parts of cities that have fallen into disappear. They are used as magnet to bring people back in to the part of the city. So stadia are becoming much more urban buildings and they are less about structural expressionism, they are more about fitting into the fabric of the city. They have to fulfill the same aesthetic and design criteria as any other city center building.

The architecture of the stadium buildings are now becoming more important. It may prefer a timeless architecture, the community may proud of it and relate to it. So each building has to be better in the way that the architecture responds to the city. But also how it responds nationally, as it is really the signature of a city and makes it special versus other cities. In this chapter it is intend to examine, how architecture of stadiums are influenced by the Social Cultural and Economic circumstances, in different regions by different ways



*Fig. 3.0.4 Bank One Ballpark at
Phoenix, Arizona.
1998.*



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CHAPTER THREE

3. 1 FAÇADE DOMINANTS

Some of the important Stadia in the world with dominant facades fall in to this category. This kind of buildings basically emerged at the beginning of the twentieth century and they were significant by very solid high façade for all sides, so they are appeared like ramparts.

SOLDIER FIELD

The Stadium Solider Field in Chicago, USA for 67,000 capacities, was constructed between 1918 and 1924. The design of Soldier Field is based on the U-shaped Circus Maximus in Rome built in the first century AD. The form, the facades and the monumental, classical architecture are typical of the huge Stadia that were built in America in this period. The design called for the stadium to terminate in two pillars topped by flames commemorating the dead of First World War dead.



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Instead of this, a neo-classical was built completely with colonnades that serve as a hall of honor. The stands are crowned by two more colonnades between which most of the ground's 116 hospitality boxes are located. The two main stands at both sides facing to each other symbolize the hierarchy of that society in 1920s. Even though it is an open stadium without roof and open end the articulation of higher buildings has demarcated the volume distinctly.



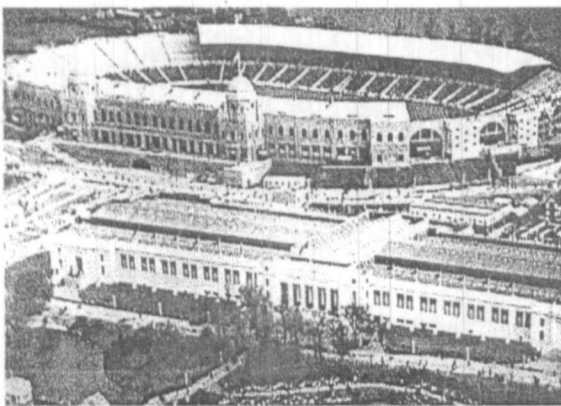
Fig. 3.1.1 Soldier Field at Chicago, USA.
1918-1924
Capacity- 67,000

The stadium, home to the Chicago Bears (American Football) and Chicago Fire (Soccer) is gigantic and the distance between the seating in the stands and the playing field is so great that many spectators must have difficulty making out the players on the field, but not the ball.

WEMBLEY STADIUM

The Wembley Stadium in London, England for 90,000 spectators was constructed in 1922-1923. Every year, tens of thousands of football fans make the pilgrimage to the sacred site where the English national team won its one and only world title in 1966. The architects of the original Wembley are J. Simpson and M. Ayrton and HOK+LOBB (the World Stadium Team) involved in later renovations.

British football stadia are characterized by a motley assemblage of extensions and new stands added over time. They are renowned for their unique atmosphere: the stands and terraces are so close to the pitch that the public is twelfth man. Wembley however, was built in one go and the pitch is separated from the stand by a greyhound racetrack. Wembley was built for the 1924 World's fair as part of the British Empire Exhibition, an amusement park symbolizing the might and grandeur of the British Empire. The stadium was the radiant centerpiece of this display and its facades were in the style of an oriental palace with the famous twin towers as trade mark.



*Fig. 3.1.2 The Wembley Stadium in
London.
1922-1923.
Capacity- 90,000*

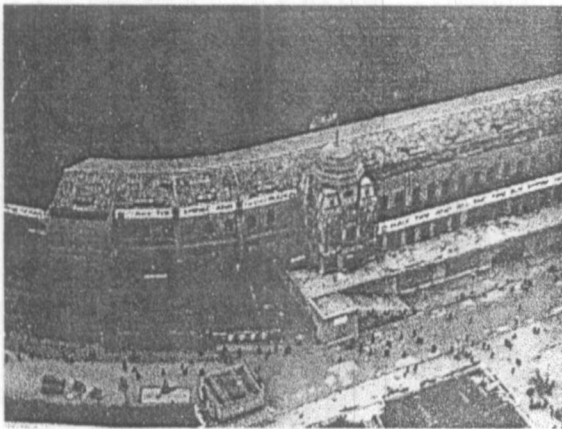


Fig. 3.1.3 Famous Twin towers at Wembley

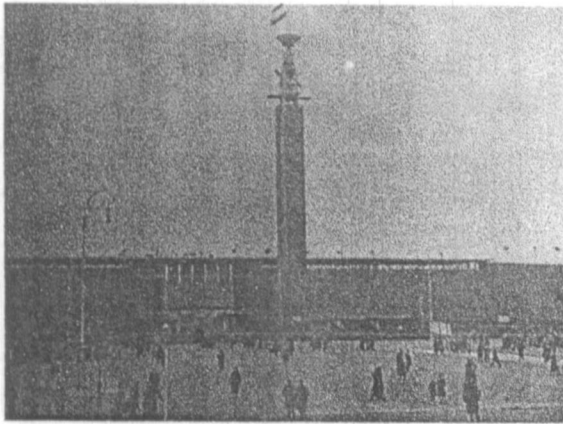
OLYMPISCH STADION

Olympisch Stadion in Amsterdam, the Netherlands in 1927-1928. The architect Jan Wils designed it initially for 34,000 and he did the first extension for 65,000 spectators in 1937. The last renovation of the stadium was done by the architect Andre' van Stigt in 1998-1999.

The brick façade of the Olympic stadium reveals the influence of Frank Lloyd Wright: in the concrete elements incorporated in to the façade and the strong horizontal line. Behind the elegant façade there lurks a thoroughly functional stadium. The playing field was originally encircled by an athletic track and beyond that a 500 m-long cycle track. The stands conformed to the shape of that cycle track. Wils designed curve terraces to match the curve at either ends. Along the straight sides he designed two 60 m long covered stands, in the west a grand stand and in the east a 'marathon' stand containing a marathon gate.

The stadium had a harmonious horizontality punctuated by the vertical accent of the marathon tower which 42 m long and topped by a shallow bowl for the Olympic flame. In 1937 the stadium was modified and so that it could compete with the Rotterdam's Feyenoord Stadium. The height of the stands behind the goals was raised by the addition of two concrete rings, which destroyed the horizontality and obscured the brick façade. Now the dilapidated and outdated stadium has been restored under the directions of Andre' van Stigt, to use it as a athletic ground with modern requirements. The space beneath the stands has been converted in to

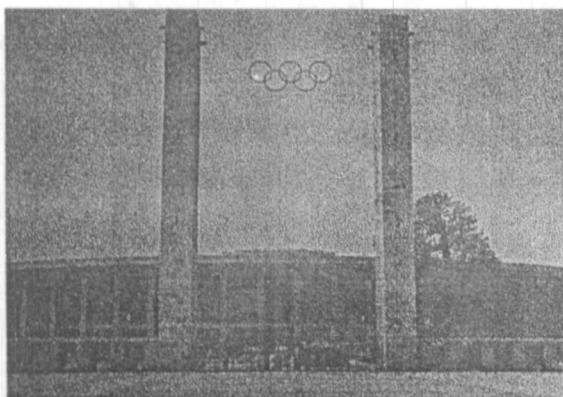
offices, which have a superb view of the action via a large glass wall and the concrete ring added in 1937, in order to restore the fine brick façade for public view.



*Fig. 3.1.4 Olympisch Stadion in
Amsterdam, Netherlands
1927-1928*

OLYMPIASTADION

Many Stadia are symbols of power and that is certainly the case with Berlin's Olympic Stadium, the design of which was closely supervised by Adolf Hitler. He saw the 1936 Olympic as an excellent opportunity to impress the world with his might; resulting neo-classical temple of sport is supported by over one hundred limestone columns expressive of 'invincible German strength and the enduring might of national socialism'. The open stadium had two tiers of seating. The first tier was below ground level and on its south side it contained the seats of honor and special box for the Fuhrer. The oval plan form took its cue from the shape of the athletic track.



*Fig. 3.1.5 Olympiastadion in Berlin,
Germany.
1933-1936.*

The Olympiastadion is located in Berlin, Germany and constructed in 1933-1936. It was part of the 131-hectare large-scale development, which contained a swimming pool, various playing fields and an open-air theater. To the west of the stadium was the Maiveld; an exercise ground the size of ten football pitches with stands on three sides. At the far side of the Maiveld, on the longitudinal axis of the stadium, stood a 75 m high tower, the Fuhrerturm. The marathon gate, an opening in the second tier of seating, provided the link between the stadium and the exercise ground and a flat form for the Olympic flame. On top of the two sturdy towers flanking the marathon gate are plaques bearing the names of all gold medal winners, including that of black athlete Jesse Owens whose victory was a source of acute embarrassment to Hitler.

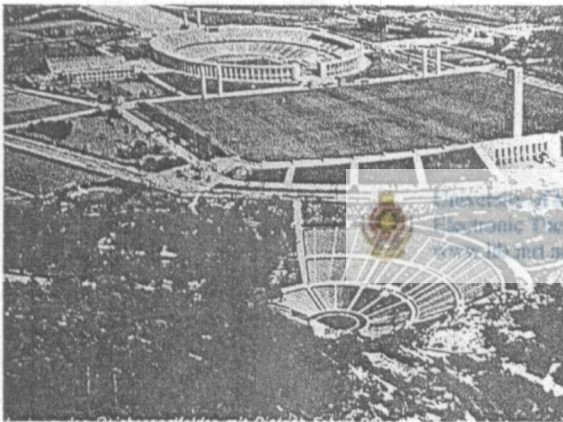


Fig. 3.1.6 Surrounding Physical context of the Olympiastadion

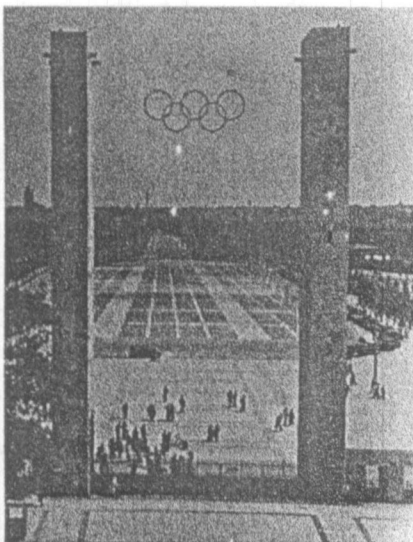


Fig. 3.1.7 Marathon gate and Olympic Flame Platform Olympiastadion.

The stadium was thoroughly renovated for the 1974 World Cup. The north and south stands were roofed over; columns, which impede the spectators view, supported a steel space frame structure covered with translucent plastic panels. These modern materials are in stark contrast with the sober design to architect Werner March.

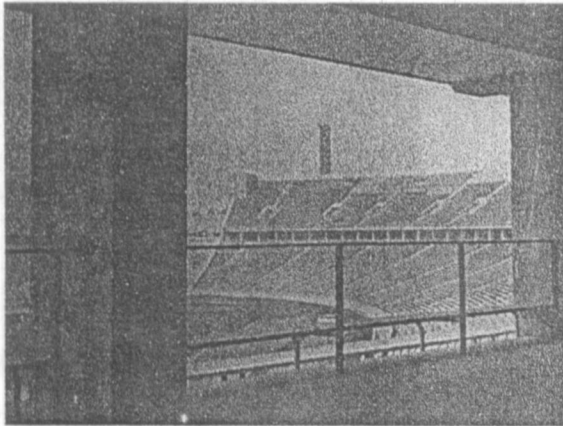


Fig.3.1.8 Internal Gallery in the Olympiastadion.

All façade dominant stadiums have some common characters. They were basically built in early twentieth century and belong to the first generation of the Stadia. So originally they were designed only for watching sports, thus they were mostly introverted. Completely different set up could be found between in side and out-side. Large-scale solid facades could be found from the outside with some decorative elements in the architecture of that period. They are not very much responding to the human scale but try to maintain the physical context of that era and in some cases reflect important historical instances.

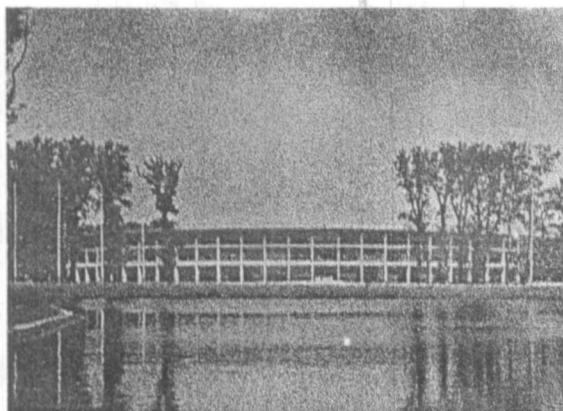


Fig.3.1.9 Waterfront Façade of the Vienna Stadium. 1928-1931.

They are expressing grandness responding to the Social structure, which they catered. Nowadays the Façade dominant stadiums are becoming important historical monumental places rather than well functional entertainment factories.



Fig. 3.1.10 Olympic stadium in London. 1908.

Some of the functional aspects of the Façade dominant type stadia can be seen in the present day sport stadia in Sri Lanka. Though they do not actually belong to this type, our stadia too are objects. Though they may not have the aesthetic facades, our stadia too are dominant structures displaying dominant facades to the immediate context. Through to the style of these early 20th century stadia, ours too, cater solely to sport activities. Rather than reflecting the social values of the people, some of our stadia try to boast the might of their creators. So because of these similarities, these modern day stadiums too are fast becoming 'alien objects' in the city, rather than being socio-culturally and economically functional spaces.

CHAPTER THREE

3.2 LARGE IN SCALE

In the middle of the Twentieth Century there was a trend to build Stadia with larger capacities. The attention paid on the Olympic and football, by that time was at a little higher elevation and even most of the existing stadia were extended to occupy more spectators. The stadium was considered as a civic pride of a city and it was one of the main reasons to built new larger stadia than others.

ESTADIO MUNICIPAL DO MARACANA.

Estadio Municipal do Maracana stands in Rio de Janeiro, Brazil was constructed in the 1947-1950 for the capacity of 200,000 at originally. This is the biggest stadium ever built in the world. (Currently reduced to 140,000 owing to tougher safety measures and the poor state of building). The Maracana Stadium is the supreme shrine for the football-mad Brazil.

The circular stadium has two cantilevered rings of stands. The structure of the second ring completely separate from the first, also supports the all round roof. Sixty trusses are needed to bear the weight of the four-centimeter-thick roof. At their highest point the stands are only 23 m high.



Fig. 3.2.1 Maracana Stadium

In order to create the required number of places the stand ascends at a very low gradient, which greatly increases the distance from the pitch. The majority of the spectators are seated beyond the point at which it is possible to recognize individual players. But in a country where the motions of the Samba and the gaiety of carnival have combined to produce the characteristic Samba-football, the carnival atmosphere in the stands is every bit as important as the game being played out on the pitch.

STADIO GUISEPPE MEAZZA (SAN SIRO).

The Stadio Giuseppe Meazza (San Siro) at Milan, Italy is a very good example for a stadium that achieved the public safety for greater extent while keeping all other design requirements and higher capacity. The San Siro was constructed in 1926 for 35,000 spectators and the first major enlargement was done in 1954 by Architects Armando Ronca and Ferruccio Calzolari for the capacity of 100,000 spectators. Next extensive for the 1990 World Cup resulted in all-seater Stadium with numbered plastic seats and resulted to reduce the capacity so that add the third tier level carried by eleven freestanding, cylindrical towers; the four corner towers support the imposing roof structure.

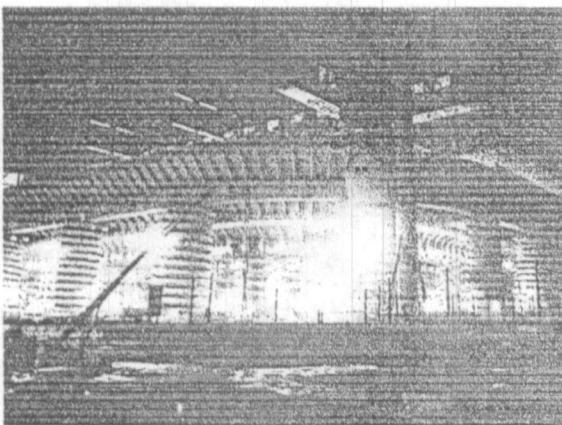


Fig.3.2.2 Stadium San Siro

In the early 1950s, when the two Milan based clubs took turns at winning the Championship, the ground's capacity was found wanting taking the Feyenoords Stadium in the Netherlands as a model, a second cantilevered tiers was built on top of the existing stands, enabling more capacity attend. To provide access to the new

area, both architect and engineer decided to build nineteen ramps along the façade. The result was a compact stadium with a unique exterior and crowd felt better when getting out of the stadium after event. Beneath all the alterations it is still possible to recognize the stadium that AC Milan built in 1926; the lowest tier still largely original. The early stadium consisted of four separate stands, one covered grand stand and three uncovered seater stands. San Siro is a different kind of architectural experiment done for mass sports building. The way it has respond to the increased social structure while maintaining the practical safety measures is enormous. Horizontal ramps which running right round the stadium has help to down its high scale into the human scale and wide vertical towers consciously making balance between the vertical and horizontal elements.



Fig. 3.2.3 Ramps around San Siro

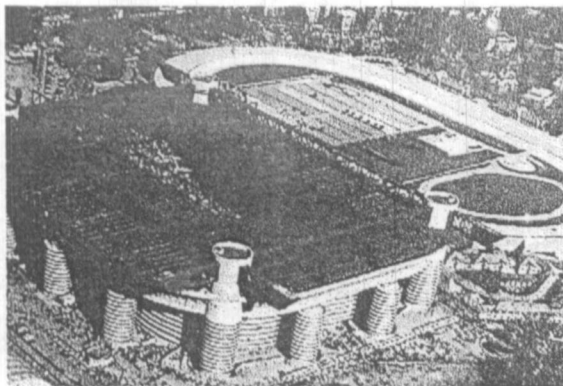


Fig. 3.2.4 Modern San Siro after renovations in 1990 for World Cup

ESTADIO SANTIAGO BERNABEU

This Stadium is sited on the Madrid, Spain. It has constructed in 1944-1947 and enlarged in 1954 for the capacity of 90,000 spectators. It was renovated in 1980 and added a roof structure. The growing number of spectators wanting to attend matches forced the clubs to expand their accommodation. Inspired by the Maracana Stadium in Brazil, Barcelona built Nou Camp and Real Madrid built Bernabeu Stadium.

*Fig 3.2.5 Estadio Santiago Bernabue.
1944-1947*



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*Fig. 3.2.6 Santiago Bernabue after
renovations in 1982 for
World Cup*



Bernabeu was inaugurated in 1947; was completely open to the sky and consisted of two tiers of stand on three sides and one low terrace on the east side. In 1954 the terrace was replaced by the 'amfitheatro', a three-tier stand wedged between the two corner towers. Right on time for Real Madrid's dream debut in Europe (the club won five European Cups in a row) the Stadium was able to

accommodate about 120,000 spectators and the stadium was completely renovated for the 1982 World Cup series. The three low stands were furnished lightweight and aerodynamic cantilevered roof made up of two layers. Precisely above the goal area these layers diverged slightly to make room for the video boards.

NOU CAMP

Construction of Nou Camp began in 1954. the design was based on Feyenoord stadium in the Netherlands and like its model have had two all-round, cantilevered tiers of seating with a cantilevered roof above the grandstand. But instead of concrete, the architects used steel. The stadium was modernized and enlarged in 1982 for World Cup. A third tier of seating was added and the exterior and huge score boards also date from this time. Real Madrid is inseparably linked to the Spanish establishment, whether it be Franco, the Royal house or the Spanish state. These classy connections are reflected in the stadium's location on the city's main revenue, the Castellana, where it occupies a prominent position among the ministries, banks and museums.

'Berca' on the other hand, the standard bearer of Catalan identity, has found its own empire. In addition to the football stadium of the same name, Nou Camp, FC Barcelona's new, 15-hectare base boasts an indoor sports hall, a small sports hall, an ice rink, training facilities and a 'Mini-Estadi'. With 110,000 members, Barcelona is the biggest football club in the world but it also plays basketball, roller hockey, handball, volleyball, judo, ice hockey, rugby, athletics and baseball.



Fig.3.2.7 Stadium Nou Camp.
1954

'Berca' on the other hand, the standard bearer of Catalan identity, has found its own empire. In addition to the football stadium of the same name, Nou Camp, FC Barcelona's new, 15-hectare base boasts an indoor sports hall, a small sports hall, an ice rink, training facilities and a 'Mini-Estadi'. With 110,000 members, Barcelona is the biggest football club in the world but it also plays basketball, roller hockey, handball, volleyball, judo, ice hockey, rugby, athletics and baseball.

CENTRALNY STADION LENINA.

A monumental statue of Lenin-proud, jutting-chin, overcoat slung loosely over the shoulders and cup in the left hand-marks the entrance to the national stadium named after him. The fact that nearly all that all Russian stadia bear his name or that of Stalin or some other party bigwig shows the extent to which sport was an integral part of the communist system. Not only was sport wielded as a propaganda tool, but also the stadia themselves were used for political rallies and festivities. The stadium, built at a time when mega stadia were appearing all over the East Bloc, consist entirely of unroofed seats. A regime that propagates equality can scarcely make a distinction between expensive covered seats and cheap terraces in the international calling card.

*Fig. 3.2.8 Lenin Stadium,
1956.*



Russian stadia were nearly always part of huge sports complexes and the park around Lenin Stadium is one of the largest in the world. In addition to the stadium, Luzhiniki Park contains a sports palace for 13,000 spectators, and indoor

pool seating for 10,500, a sports hall holding 4,000, small sport halls (22 numbers), 11 football pitches, 4 athletic tracks, 3 skating rinks and 55 tennis courts. On top of this, the area beneath the stands houses a cinema, a theatre, a hotel, a restaurant and a medical sports center. An average of 10,000 people make use of one or more of the 140 different sporting facilities daily.

By Russian standards (the architecture of the time was dominated by decorative Stalinesque baroque) the design of the stadium façade is extremely restrained. It has a classical main frame of columns with cornice beneath which is an open arcade. Above this the architect introduced a vertical articulation in the form of two rows of elongated windows arranged in groups of three. The continuous cornice and the repetition provide a horizontal counterweight. The stadium stands on the bank of the Moscow River and is connected via a central axis with that of the University of Moscow on the other side of the water so that it is a part of a monumental special composition.

Lenin Stadium is the home of Spartak Moscow Football Club and is also used for Russian National team matches. In 1980, the sport park required international fame as the setting for the Olympic games. Two years later the Lenin stadium hit the news headlines in less fortunate circumstances. On a buttry cold evening during a UEFA cup-qualifying match against Harlem Football Club, a group of departing spectators started to slide on an icy ramp. They collided fatally with a crowd of Spartak fans who were trying to re- enter the stadium after hearing that their club had managed to score the winning goal in the final minutes of the game.



Fig. 3.2.9 Lenin Statue in front of the stadium

Most of the Stadia laid under this category have been built in mid of the Twentieth Century. They were built at out of town locations and the most probably next stage of the façade prominent stadia. Even in this type some similarities can be seen. Even solid facades can be seen in this type they have long facades, their solidness has been reduced to some extent and void ratio has been increased to certain level. Architectural styles reflects the modern movement in most has been used modern materials like glass, steel and plastics and they consist of plain columns beams structure with out much carvings and moldings like in the Façade category. The scales, materials, architectural style, reflect the social structure of that society. All of the modern day stadia in Sri Lanka are actually smaller scale replicas of this type. Though this type doesn't really try to create dominant facades, because of their grand scale, dominant facades are involuntarily created. Since they are involuntary, no special efforts were taken to detail these facades. The result is huge and dominant facades that lack any aesthetic features, only consisting the details emanating from the structural engineering aspects of the grand structure.

This type simply cannot be afforded by a third world country like ours. We have neither the economy nor the population to support this type of a stadium. So what we have done is we have built smaller scale replicas, just because we love the boasting nature of this type. Like the façade dominants these too were catering only for the sporting activities thus eliminating the possibility of functioning as a socio-cultural and economical center of the city. So it is no wonder that some of our stadiums have become socio-culturally and economically dead spaces contributing neither to the surrounding people nor the population of the nation as a whole.

CHAPTER THREE

3.3 MONUMENTAL BUILDINGS

This type of buildings appears like sculptures at the middle of the cityscapes and they behave as sports venues as well as landmarks in the world. Monumental stadia were built at different time periods. The Olympic arenas in Japan, designed by architect Kenzo Tange, are one of the most emotional Sculptural Stadia in the world. Monumental constructions may involve different kind of materials, construction methods and big money, but they are usually places for little crowd. It may have cultural values like religious and spiritual concepts symbolized through the building and basically these kinds of structures are more self-expressive than object-like buildings.



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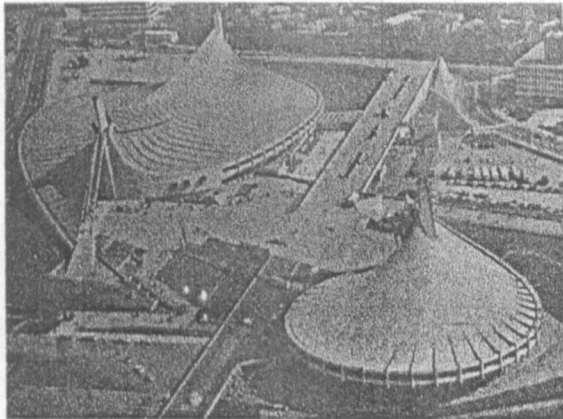
Fig. 3.3.1

*The Land Mark in Japan,
Olympic Halls*

OLYMPIC HALLS

In the two Olympic sports arenas Tange combined modern design with traditional Japanese forms. The buildings are characterized by a flowing line, an expressive treatment of concrete and above all by the eccentric roof construction: a concrete and steel tent roof in two versions. The suspended roof construction elaborates on the examples of the Philips pavilion by Le Corbusier, designed for the 1958 Brussels World's Fair, and Eero Saarinen's hockey stadium in New Haven

(1958). The larger hall contains a 50- meter pool and a diving pool. The plan is composed of two semicircles both of which have been extended at one end to create the entrance. The roof of steel sheets rests on steel cables suspended from two concrete columns. A central opening between the columns admits light (natural and artificial) to the arena.



*Fig. 3.3.2 Olympic arenas in Tokyo, Japan
1961-1964*

The plan of the smaller hall, intended for boxing matches, is also based on a circle. An eccentrically placed column supports the roof, which makes a spiraling movement. Both roofs are constructed to stand up to the tornado- force winds that are common in this area. For pedestrians, the two stadios are linked by a raised walk way above the surprisingly small car park. On the other hand the complex is flanked by two metro stations built specially for the 1964 Olympic games.

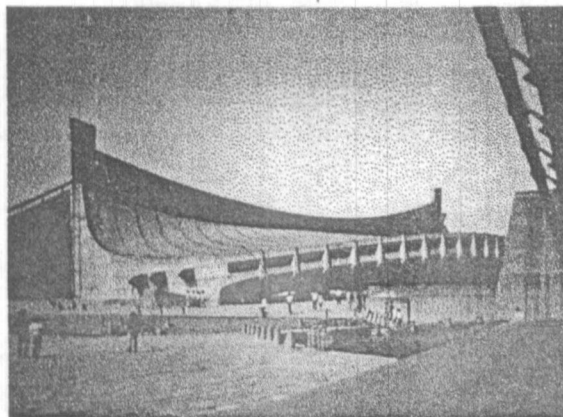


Fig. 3.3.3 Olympic Halls in Tokyo; the Lager Hall including Fifty-meter long pool and diving pool.

TAKAMATSU HALL

Almost simultaneously with the Olympic halls, Tange built a small stadium in southern Japan. The building sits there like a concrete boat on four gigantic concrete ' blocks ". The actual hall stands on a substructure containing offices and service areas. The striking design is explicitly brutalist with rough, undressed concrete walls and deliberately out-of-proportion details such as windows and the water runoff. It demonstrates once again the virtuosity attained by the Japanese master in discovering an architectural language appropriate to concrete.

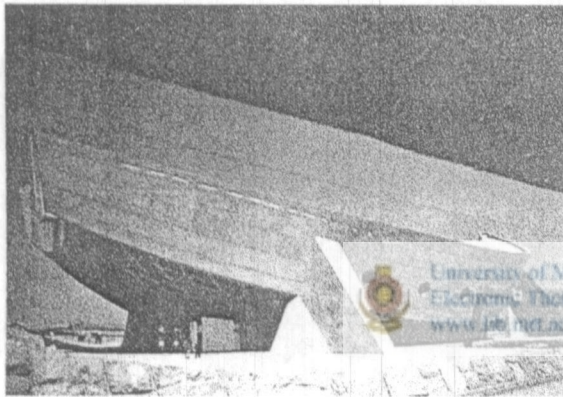


Fig. 3.3.4 Takamatsu Hall in Takamatsu, Japan. 1962

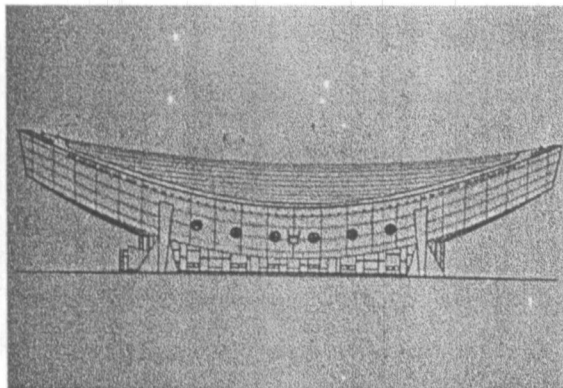
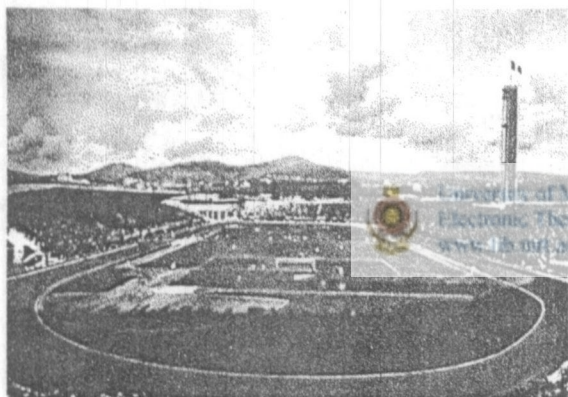


Fig. 3.3.5 Side Elevation of the Takamatsu Hall

STADIO COMUNALE

Before the Second World War stadia were often designed as neoclassical palaces or the utilitarian construction was hidden away behind a stone or brick façade. The first architect to show that a modern stadium could also be built in a modern style was Pier Luigi Nervi. His design for the stadio Comunale in Florence strikes a balance between brute force and sculptural elegance. The concrete construction is fully revealed and dominates the architectural image of the stadium, which was built for the 1934 World Cup. A major visual element is the staircase placed against the outside of the stadium. It consists of two opposing spirals and provides a lighthearted accent amidst the taut rhythm of the supporting structure.



*Fig. 3.3.6 Stadio Comunale in Florence, Italy.
1930- 1932
Capacity 49,000*

Soaring above the stands is a slender, 55-meter-high marathon tower. But the true power of Nervi's engineering art is most clearly demonstrated by the roofing. The distinctive shape of the enormous cantilever above the grandstand is a direct expression of the underlying structural forces.

The stadium is asymmetrical in plan to accommodate the sprinting track on one side of the playing field. And because of the athletics track encircling the field, the distances between it and the spectators are enormous. Despite this lack of intimacy, the stadium was thoroughly renovated for the 1990 World Cup. The concrete was restored, the pitch lowered and extra stands were built along the sides of the pitch. It was turned into an all-seater stadium and spectator facilities were

upgraded. Its heritage status saved the antiquated and poorly appointed stadium from demolition.

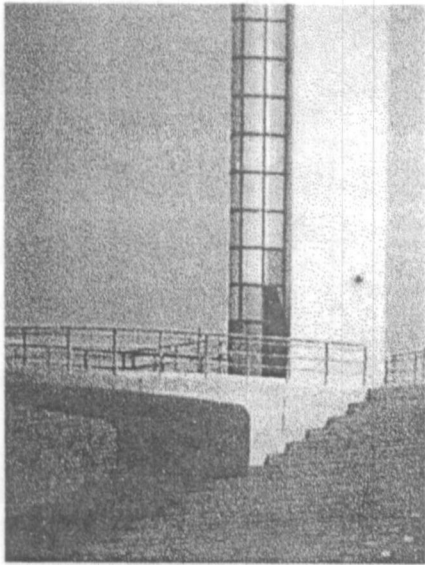
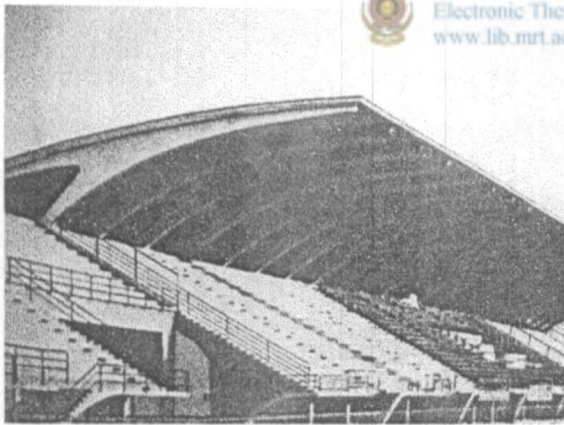


Fig. 3.3.7 Stadio Comunale; Fifty-five meter high marathon Tower



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Fig. 3.3.8 Sculptural Main Stand, Stadio Comunale

STADIO FLAMINIO PALAZZETTO DELLO SPORT

Twenty- five years after Nervi built the Stadio Comunale in Florence, he received another commission to design a stadium, this time for the 1960 Olympic games in Rome. The Stadio Flaminio is a good deal smaller than the Florence stadium and it has no athletic track, but because of this it is far more intimate and better suited to football matches. In terms of design it has a lot in common with its

predecessor. The bowl of the stadium topped by stands is made of prefabricated elements with no attempt at finishing. This bowl is carried by a series of expressive, fork-shaped concrete supports. A distinctive feature is the public approach via a raised corridor under the shelter of the cantilevered stands. Here, too, the sculptural appearance of supports and roof is a direct expression of the forces played that Nervi designed a stone's throw away from the stadium, the Palazzetto dello sport. This is a central-plan structure capped by an enormous dome, a modern pantheon where sportsmen and women are worshipped as gods. The dome is supported on 36 numbers of Y-shaped concrete columns, for the entire world like dozens of people staining to hold up the roof.



Fig. 3.3.9 Palazzetto Dello Sport in Rome, Italy. 1957- 1959



Fig. 3.3.10 Stadio Flaminio in Rome, Italy. 1957- 1959 Capacity 55,000

As the title would suggest, these stadiums took sculptural forms. It happened so because the prevailing situation under which these stadia were built required such a monumental form. The requirement was usually created by the cultural aspects. Wherever this type of stadia can be seen it is clear it was created to be a monumental sculpture, mostly because of the socio-cultural needs.

This type cannot be found in Sri Lanka. But if the necessity arises and the design is done so, that the stadium is also a socio-culturally and economically functional one, it is illogical to think that this type wouldn't succeed. In fact this could have been a better answer to need, than the prevailing 'replicas of large scale type'.



*Fig. 3.3.11 Centro JVC in Guadalajara, Mexico.
Designed in 1999.*

CHAPTER THREE

3.4 STADIA LIKE OBJECTS

Some of the stadia in the world are appeared like spaceship landed in the city or at the periphery of the city. In most cases they were fully covered and has not respond to the surrounding urban context. Thus they have become buildings like objects that can be sited anywhere.

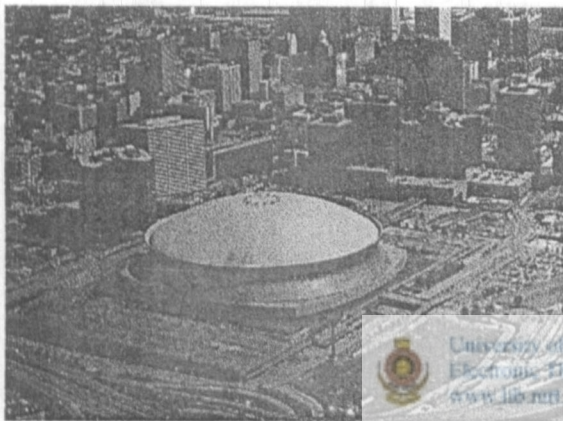
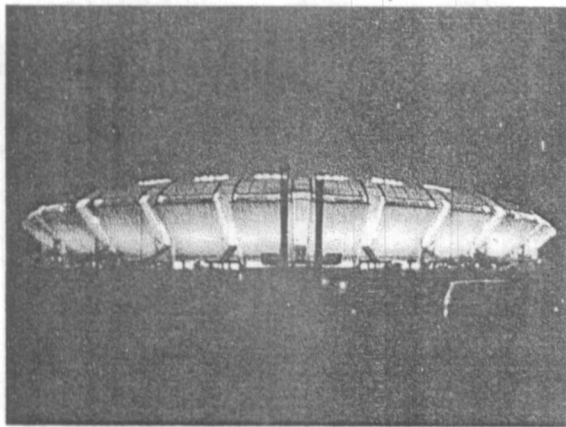


Fig. 3.4.1 Louisiana Dome.

STADIO SAN NICOLA

Just outside the southern Italian city of Bari, an alien spaceship has alighted in the middle of the dry Apulian olive grove landscape. Especially at night, when the solitary saucer is dramatically illuminated from below, the colossus appears to hover. This alien intruder is the San Nicola football stadium.

The huge oval shell balances on an artificially green hill in which a crater has been carved out for the first tier of seats and for an athletic track around the actual playing field. Immediately below this first tier (in the ground, in other words) are all the changing rooms and service areas. The hill also forms a green buffer around the stadium and in order not to disrupt this effect; an underground road was built around entire stadium so that player's coaches, police cars and ambulances are completely separated from spectators.



*Fig. 3.4.2 The Lamp Shade of the city;
San Nicola in Bari, Italy.*



*Fig. 3.4.3 Stadio San Nicola in Bari,
Italy.
1990.
Capacity 58,000*

Piano divided the concrete tier above into 26 compartments. In between he created recesses from which 'gangplanks' fold down to connect up with the radial paths leading to the car park. This was done partly for security reasons (to break up the crowd) but also to establish a relationship with the surrounding landscape. The resulting transparent stadium is a total departure from the wholly enclosed, classical Roman arena. The roof of transparent Teflon panels follows the height differences of the second ring of seating in a graceful, wave-like motion. On the outside, Piano has emphasized the parabolic curve of the stand sections and made no attempt to conceal this. The elegant structure, the light roof and the barely visible columns all conspire to give the impression of a spaceship ready to depart at a moment's notice.

DODGER STADIUM

What soccer is to Europeans and Latin Americans, baseball and gridiron are to Americans. Just about every American is formally or emotionally attached to a club whose players enjoy superstar status. Baseball stadia, with their characteristic horseshoe shape, have a smaller capacity than enclosed arenas. The V- shaped stands follow the layout of the baseball pitch: because most of the play is concentration around one sport, few stadia bother with an outfield stand; from that distance there would be very little to see.



Fig. 3.4.4 Dodger Stadium in Los Angeles, USA. 1959- 1962. Capacity 56,000



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The Dodger Stadium is the outcome of a remarkable rebellion that took place in the baseball world of the 1950s. Two of the top teams, the Dodgers and the Giants, decided to swap New York for Los Angeles and San Francisco respectively. Both had been based in very old stadia—the Polo grounds (1911) and Yankee Stadium (1923)- that were in urgent need of refurbishment. When the city of New York put too many obstacles in the way of their rebuilding plan they simply upped sticks and moved to California. The Dodger Stadium stands on the outskirts of Los Angeles surrounded by a sea of asphalt with parking spaces for 16,000 cars. It is a baseball stadium with one big-shaped stand and two lower stands behind the outfield. The main stand consists of three tiers, the first of which is below the prime viewing section behind home plate has an additional fourth tier. Because there is a

high risk of earthquakes in this area the main stand is composed of several freestanding elements.

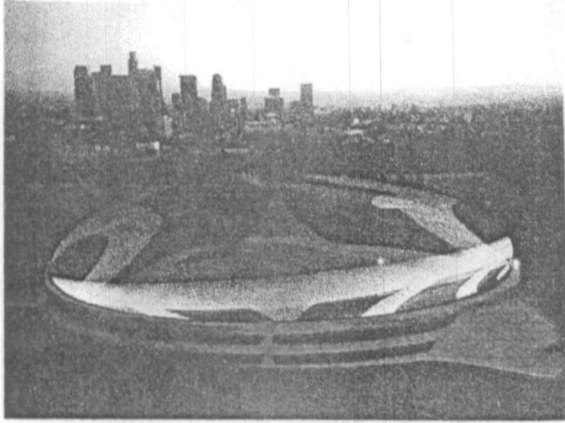


Fig. 3.4.5 The Dodger Stadium in Los Angeles, USA. Redesigned in 1999 for 75,000 capacity

As was customary for stadia of the period, Dodger Stadium is a mono – functional sports venue: baseball is the only sport played here. In recent decades, however, the stadium has hosted more and more non- sporting events. The rolling stones and U2 are only two of the acts to have performed here. In 1987 Pope John Paul 11 even celebrated mass in the national League ballpark.

AMSTERDAM ARENA

The Amsterdam Arena located at Amsterdam, Netherlands was constructed in 1993-1996 for 51,500 spectators. The Architect Rob Schuurman deliberately gave the stadium the appearance of a flying saucer, a striking silhouette with a curved roof. The monster's landing place in Amsterdam southeast seems fairly fortuitous; it could just as well have alighted anywhere else in the urban periphery. He redesigned the stair towers, giving them round holes and diagonal cross connections, like laces in a football boot; add a plinth to a height of 8.4 m below which there is a room for numerous commercial uses and the gate-house building was designed over Burgemeester Stramanweg in his well-known postmodernist Rolex Architecture. The stadium sites on top of a huge car park and two cantilevered, three galleries, which also contain the toilet and catering facilities, serve all-seater stands.

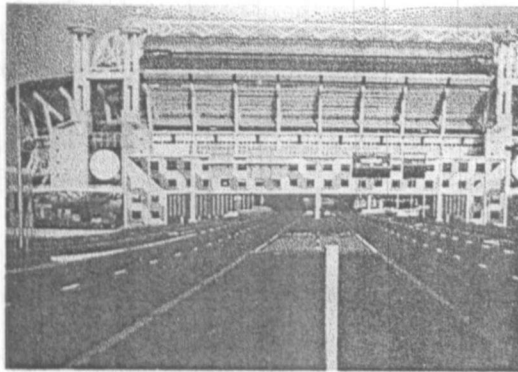


Fig. 3.4.6 Main entrance to the Amsterdam Arena

A notable feature, apart from the imposing hi-tech roof construction, is the emphasis placed on customer care, service and comfort: luxury tip-up seats, a roof that keeps all spectators dry and many easy-to-reach amenities. It is functioning as a multipurpose event venue so that the roof has been designed to move over two trusses to close off the stadium completely. This is the first European stadium with a sliding roof



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Fig. 3.4.7

Amsterdam Arena in
Amsterdam, Netherlands.
1993-1996
Capacity 51,500

ASTRO DOME

The Harris County Domed stadium to give the Astrodome its official name was the world's first multi-purpose, roofed stadium. It is located closed to downtown Houston and encircled by a car park with spaces for 30,000 cars. The almost 70-meter-high dome, which protects the public from sun, rain and mosquitoes, was based on the 'geodesic dome' of architect- engineer Richard Buckminster Fuller.

The dome rests on a circular substructure with a diameter of almost 215 meters and consists of steel slats and trusses that together form a lattice framework. The diamond-shaped openings between slats were originally filled with transparent plastic panes but the bright light made it impossible for the baseball players to discern fly balls. When experiments with sunglasses, and orange colored balls failed to solve the problem, it was decided to paint the panes a semi opaque white. As a result the grass refused to grow and in 1966 it had to be replaced by the now famous artificial grass known as AstroTurf.



Fig. 3.4.8 Astrodome in Houston, USA.
1961-1965
55,000

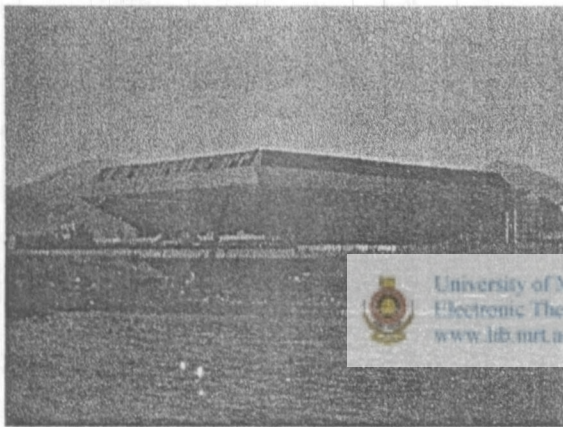
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A major renovation, completed in 1989, has raised the level of amenities in the stadium. Among other things, 66 luxury suites and 12 super suites were added. The stadium was also provided with a 'Magic Carpet': two separate playing fields. One for baseball and one for American Football, are stored in basements underneath the arena and rolled out as needed.



Fig. 3.4.9 Inside the Astrodome

The most important feature of this type is the extensive use of technology to realize design requirements and to ensure socio-economic functionality. Because of the technical supremacy this type of stadiums can be built anywhere and because of the same they are always objects in the surrounding context. Also because of their 'multi use' ability, this type of stadiums can be socio-culturally and economically functional. But they have very large capitol and running costs, thus making them out of bounds to a third world country like Sri Lanka. In fact even the wealthy European countries like UK are finding it hard to sustain this type of stadiums they have e.g. Sky-Dome, UK



*Fig. 3.4.10 Hong Kong Coliseum,
Hong Kong.*



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CHAPTER THREE

3.5 PART OF THE NATURE

The concept of Eco-Friendly architecture came up dramatically in the end of the last century with certain architectural principals. They were considered as a part of the Nature. It certainly represents the desire of the society to be the part of the nature and how much sports and entertainment relates with the natural environment.

STADIO DE ATLETISMO.

On a barren plateau outside Madrid, Cruz and Ortiz designed a monumental concrete sculpture. Only the two flanking light masts give any hint that this is in fact an athletics stadium. In the not too distant future the stadium will be part of an extensive sports complex in which the striking grandstand will form an important point of reference. The relationship with the city is established by the spectacular view of the Madrid skyline from the stand and the panorama terrace.



Fig. 3.5.1 *Atletismo Stadium; Play with Nature*

The stadium consists of a 360-meter-long plateau containing a sunken athletics track and playing field. It is surrounded by simple terraces: three grassy slopes that recall the amphitheatres of ancient Greece. With all ancillary spaces,

such as changing rooms, pressrooms and an indoor practice area located underground; the silhouette of the main structure acquires enormous visual impact. The grandstand structure-which has earned the stadium the nickname 'the Spanish comb-consists of obliquely placed double beams of reinforced concrete supported on the low side by a base course. The entrances to the stadium are tucked away in the gaps between the three gigantic perforated concrete walls that make up the building's façade.

Because the design gives priority to the spectacular visual impact of the grandstand, the stadium is open to the skies, although a roof would not have been an unnecessary luxury in a climate where sweltering summers alternate with freezing winters.

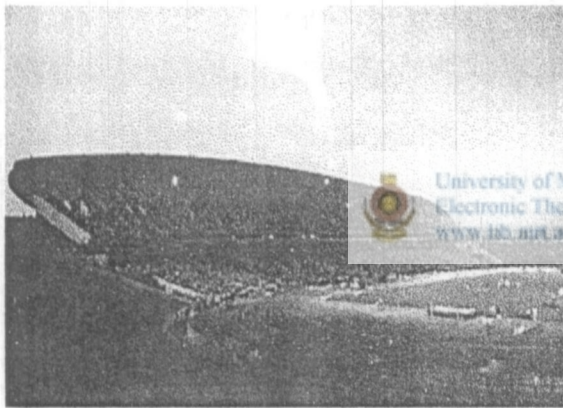


Fig. 3.5.2 Stadio de Atletismo in Madrid, Spain. 1994. Capacity 20,500

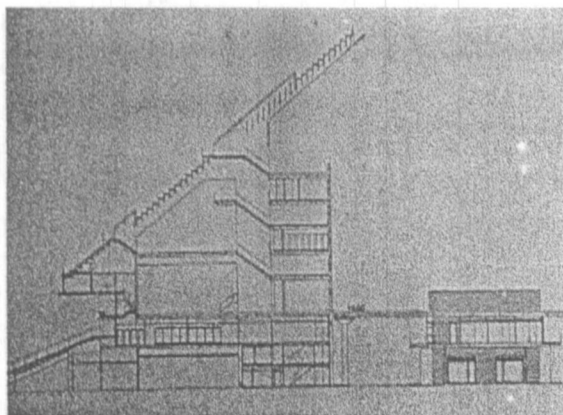


Fig. 3.5.3 Section of the stadium Atletismo

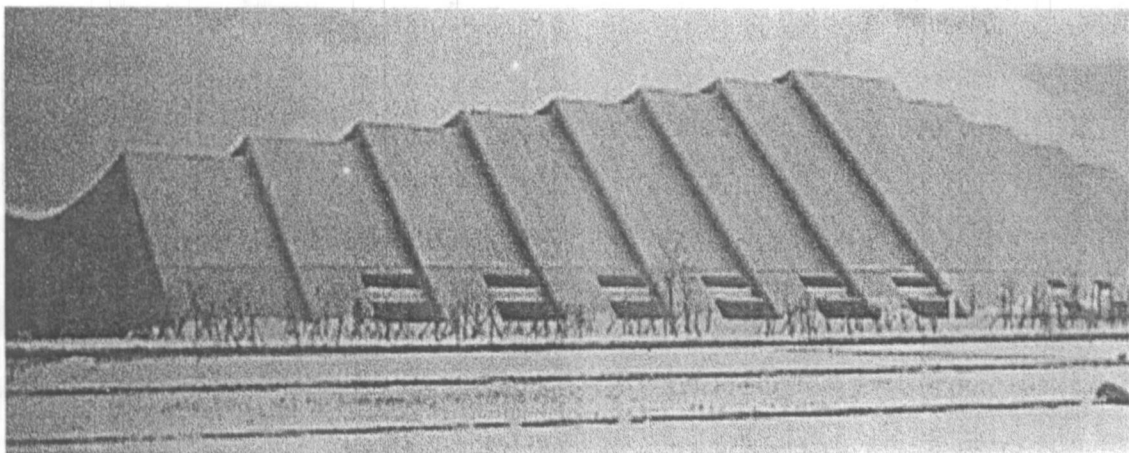
NAGANO OLYMPIC ARENA.

What makes this indoor skating rink, nestled between the mountain ridges of the 'Japanese Alps'; so much a part of its environment is not so much its outward appearance as the chosen techniques and constructions. The building is designed to be durable and to satisfy climatological requirements without resorting to complex technical systems.

The shape of the stadium, the materials, the construction and the appointments are all geared to this. On top of a concrete structure rests a wooden roof whose distinctive shape achieves savings on heating and ventilation. Natural ventilation and light are able to penetrate the overlapping sections of the ceiling. Huge glass walls on the short sides provide views out over a park that was made possible by accommodating all the parking spaces underneath the building where they also serve as an insulating layer. There are wide exits for safe and speedy evacuation, even when it is snowing.



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*Fig. 3.5.4 Nagano Olympic Arena in Nagano, Japan.
1998
Capacity 10,000*

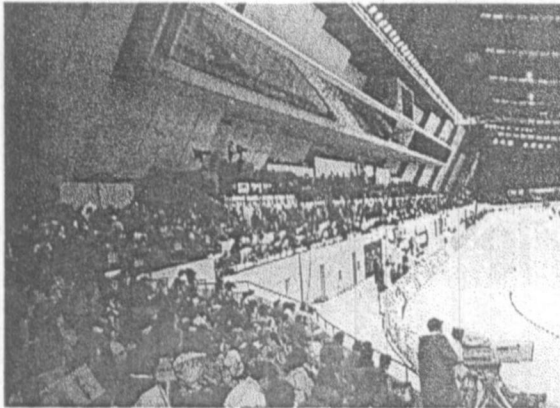
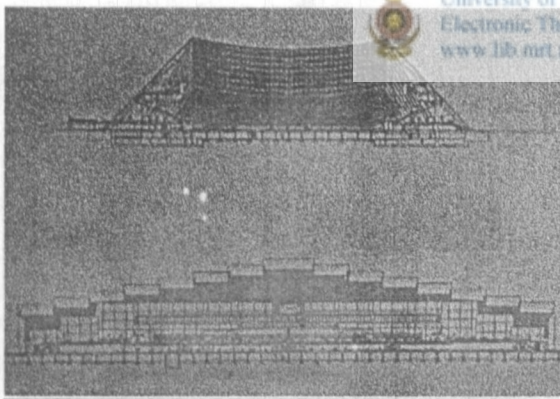


Fig. 3.5.5 Inside of the Olympic Arena in Nagano.

The building represented a big change compared with the earlier dome model with which Kajima had made its name; it is a linear, multi – purpose space that can be made bigger or smaller depending on the events, with the aid of movable stands. Regardless of what sport is being played here, the audience is always close to the action.



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Fig. 3.5.6 Sections of the stadium Nagano

OLYMPIASTADION

The stadium itself is fairly orthodox but the tent-roof construction by architect Frei Otto is so spectacular that the Olympic Stadium is among the most beautiful in the world. The typical German parkland setting also plays a part in this. Arranged among the trees and lakes in the rolling landscape of Olympic Park, stand not the stadium but also an indoor pool, a gymnastics arena, a velodrome and a 275-meter-

high Olympic Tower. The Olympic Village, where Arab terrorists murdered two Israeli athletes and held nine others hostage, stands on the edge of the complex.

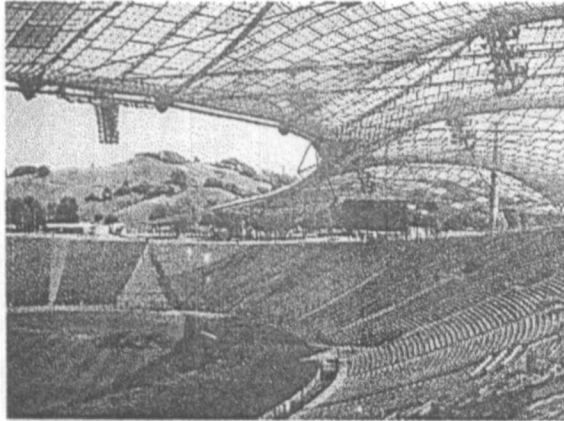


Fig. 3.5.7 Inside the Olympiastadion

This stadium has witnessed the high and low points of Dutch football. Both the unsuccessful world cup final against Germany in 1974 and the successful European Cup final against the Soviet Union in 1988 were played under this high-tech Bedouin tent. The roof of translucent Plexiglas, suspended from eight cables-stayed masts, undulates above the west side of the stadium, gradually tapering off towards the sides. Two lighting units are attached to the edge; on the unroofed side the lights are placed on top of masts.

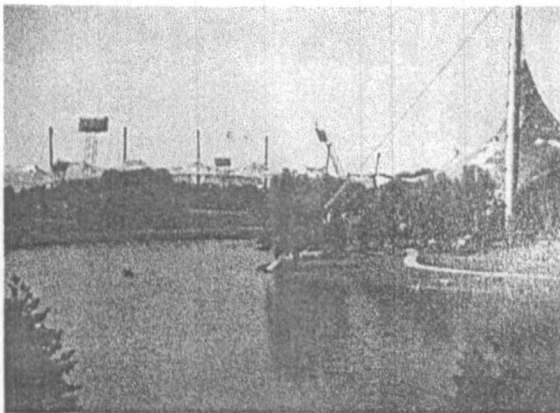


Fig. 3.5.8 Olympiastadion in Munich, Germany.
1965- 1972.
Capacity 74,000

The same roof construction was used for the swimming pool and the sports hall, producing a rolling landscape of 75,000 square meters of tent-like roof that is clearly intended to blend with the surrounding hills.



Fig. 3.5.9 Tent roof structure blend with the surrounding Mountains, Olympiastadion in Munich.

The oval stadium is partially buried so that only the raised grandstand projects above ground level. It is a fairly conventional concrete stand, supported on columns and transverse beams of the same material. A superb canopy may surmount the stadium but when it rains this wonderful structure keeps barely 34 per cent of the spectators dry.

STADIUM AUSTRALIA

The Olympic games being staged in Sydney in 2000 will go down in history as 'the Green Games'. The stadium, other sporting facilities and the Olympic Village have been designed as part of the Homebush and Homebush Bay parks. This ambitious plan-the transformation of a 760-hectare industrial site and rubbish tip into a park landscape is based on a master plan involving literally hundreds of town planners, architects, landscape architects, designers and artists. During, but above all after, the Olympic Games this new district will become Sydney's foremost recreation park. The actual Olympic site is very compactly built within a forty-kilometer radius. It is hoped that this, together with an extensive public transport network, will drastically reduce car use. Form the surrounding park landscape '

green fingers' in which infrastructure and public space are interwoven will penetrate deep into the ceremonial heart.

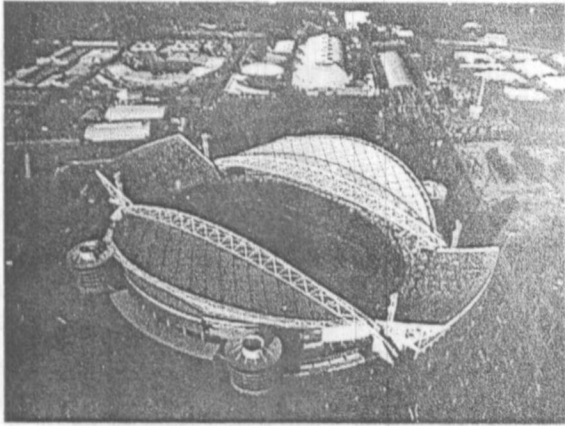


Fig. 3.5.10 Stadium Australia in Sydney, Australia. 1996- 1999 Capacity 110,000

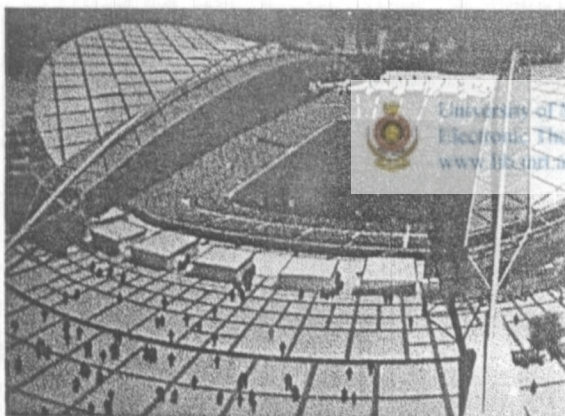


Fig. 3.5.11 Olympic games in 2000 was staged in Multi-functional Sydney Stadium

In the designs for the arenas only environmentally friendly and recyclable materials have been used, the stadia are naturally ventilated and so constructed as to take full advantage of natural daylight. The grass in the Olympic Stadium is irrigated with rainwater collected on the roof and stored in underground tanks. The stadium has been designed around a sports field plus athletics track. The side stands are covered with a transparent roof. At the front the roofs are supported by a 295- meter-long arch while the back rests on the stands. After the Games the second tiers of the end stands will be demolished after which these stands, too, will be roofed over. The stadium, which will then hold 80,000 people, can be easily

adapted for various sporting events. The lowest tier has been set on rails so that the stands can be moved for different sports, thus ensuring that the spectators are always close to the action.

This type of stadiums started to appear with the emergence of the Eco-friendly architectural trend. The architect's main objective was to create a stadium that is environmentally sustainable by means of it being less harming to the environment while construction and operate, energy efficient and using environmentally friendly materials.

This type involuntarily inherits with its Eco-friendliness, a socio-friendliness. This is because of their choice of more down to earth materials and their relatively human scale. (Horizontal expansion rather than vertical). Because of their energy efficient features and Eco-friendly technologies, they usually cost relatively less to operate and maintain. And also the capital could be less due to choice of materials and construction techniques (horizontal expansion) used. So they are economically sustainable and as mentioned above, more inviting to the public thus becoming socially functional as well. Making the stadium a mix-use one will further strengthen this aspect. Therefore it is logical to predict that this type would suit the third world countries like Sri Lanka more than some of the above mentioned types. Locally available materials and construction techniques and our tropical climate could be of great importance and value if we ever decide to take up this type. The recently started Rangiri Damulla International Cricket Stadium could have been an ideal opportunity for this type of a stadium.

CHAPTER THREE

3. 6 PART OF THE CITY

Some of the Stadia in the world are sited on the middle of the highly dense cities. Thus they have become the eye-catching element and important places of those cities; they also become part of the city like other city buildings. Most of them respond not only to the physical context of the city, but also to the activities of the district or ward it located. In some situations stadia caused to renaissance the dead parts of the city. In this section examine about some of the important urban stadia, which plays a major role in the city.

STADIO LUIGI FERRARIS



Fig. 3.6.1 The design incorporates an old warehouse (1898), which serves as a backdrop to right field and lends the stadium a historical aura.

Wedged between a river to the south, a prison to the west, housing to the east and a fourteenth-century villa to the north, stands the striking Luigi Ferraris stadium. In the midst of a lively working-class district, the four 'Pompeian red' towers from which are suspended the steel girders supporting the rectilinear roof sections, are compelling eye-catchers. The towers are the inner-urban version of the light masts that signal the presence of a sports ground all around the world.

They sit atop the four similarly colored corner blocks, which contain the ramps leading to the second tier of seats. From the outside; the light concrete ramps are visible as a zebra crossing through a large opening in the sidewall. Gregotti's design replaced the old Stadio Luigi Ferraris built on this in 1928.

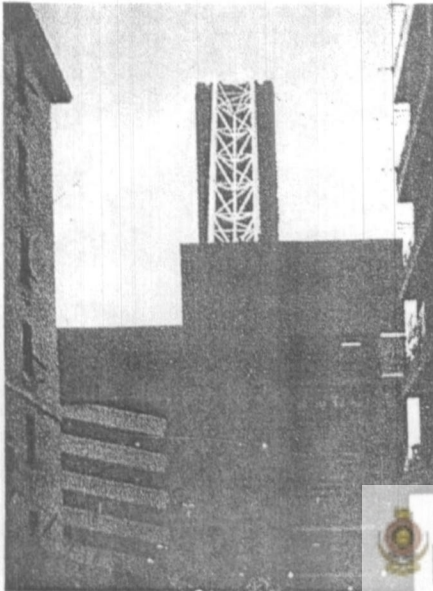


Fig. 3.6.2 Eye catching Towers of the Stadium



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The old stadium had undergone frequent partial renovations over the years but with the 1990 World Cup in prospect it was finally judged too outdated for mere refurbishment and it was decided to build a brand new stadium. The location in the middle of the city brought with it a whole range of problems: the site was tight, the building height was restricted on account of the surrounding apartment blocks and the supply and removal of building materials was difficult. What is more, the Genoa and Sampdoria football clubs had to be able to continue using the ground during construction. For this reason, the builders began by demolishing and replacing the southern half of the old stadium. Only then did work commence on the other half. The stadium has consequently never looked entirely new: by the time the stadium was completed, the walls of the southern half were covered with graffiti, just like old times.

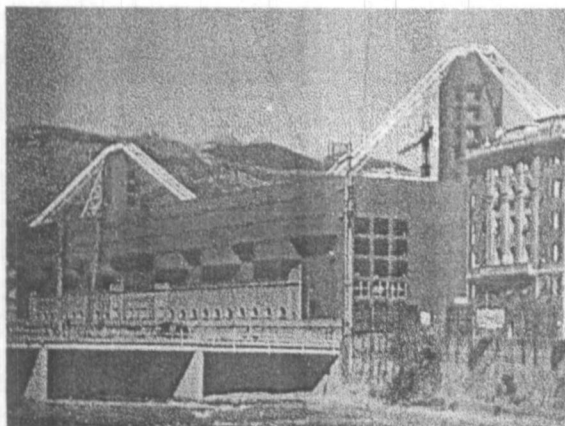


Fig. 3.6.3 Stadio Luigi Ferraris in Genoa, Italy. 1987- 1989. Capacity 44600

TOKYO DOME

The Tokyo Dome, the first covered stadium in Japan, is used mainly for baseball, a sport that is very popular with the Japanese. The Dome is home to two major League teams, the all-powerful Yomiuri Giants and the lower placed Fighters. It is also frequently used for conventions and pop concerts. In fact the stadium is least suited to sporting events, and players and fans complain bitterly about the fact that balls hit into the outfield can barely be distinguished from the white underside of the roof.



Fig. 3.6.4 Tokyo Dome in Tokyo, Japan. 1985- 1988. Capacity 55,000

The stadium is square in plan with rounded corners. But the stands follow the layout of American baseball stadia: behind home plate there are three tiers of seats and behind the outfield one. In addition, there are luxury suites on the first

balcony. The stadium owes its nickname 'the big Egg' to the roof which is made of Teflon-coated fiberglass stretched between cables. This lamp membrane structure is held aloft by air pressure, which is 0.3 per cent higher inside the dome than outside.

The most important aspect of the Tokyo Dome design is the creation of a large entertainment zone around the stadium, with bowling alleys, a roller skating rink, slot machine halls, a sauna, a hotel, theatres, sporting facilities a swimming pool, shops, a baseball museum and amusement parks. The complex is served by a railway station and two metro stations. The embedding of the sports facility in an entertainment zone guarantees the visitor a complete day out.

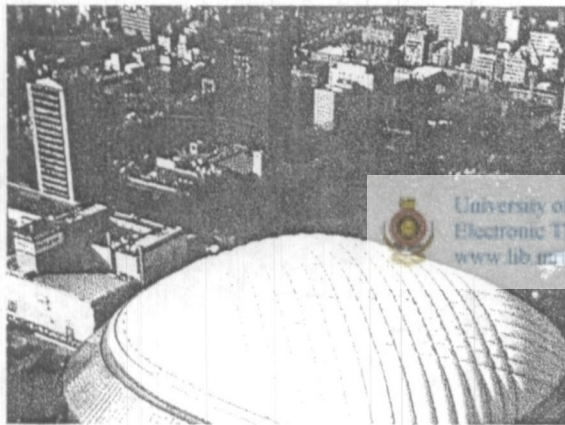


Fig. 3.6.5 Tokyo Dome in Tokyo;
'The Big Egg'

STADE DE FRANCE

The Stade de France at Paris constructed in 1995-1998 for last World Cup of the twentieth century. Here the ultimate high mass (World Cup Final) was celebrated by 80,000 faithful beneath a roof that floated like a gigantic halo above the zone of the gods. Television delivered the host directly into the living rooms of further four billion or so communicants. The stadium is elliptical in plan and consists of three rings of stands, the lowest of which can be moved backward and forward on air cushions.

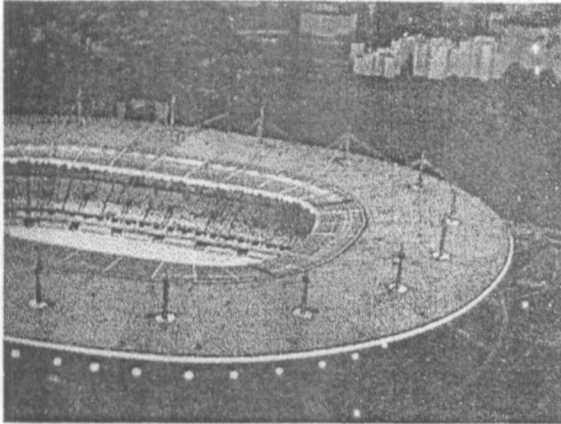


Fig. 3.6.6 *Stade de France in Paris, France.*
1995- 1998.
Capacity 80,000

For Soccer and Rugby matches it is moved close to the pitch; when retracted it reveals an athletics track. On the outside the stadium is clad in a net of stainless steel mesh, which lends a sense of unity to this complex stadium machine; in addition to sporting facilities, press rooms, and restaurants a conference and exhibition center, 4,000 m² retail space and 2,000 m² office space underneath the stands. The visual appearance of the stadium dictated by the gigantic dimensions of the oval roof that is suspended from eighteen of 60 m high poles. At night, when it is lit from below, a radiant aureole floats above the cathedral of Saint-Denis.

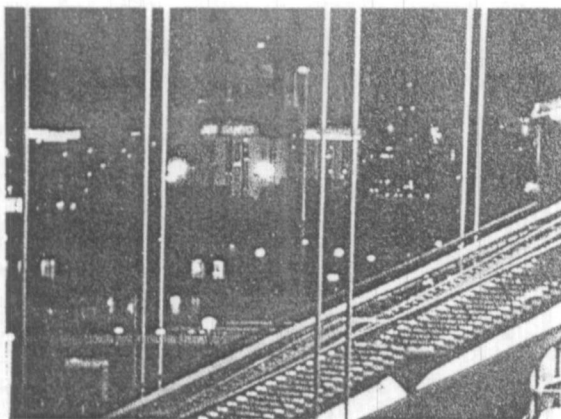


Fig. 3.6.7 *Stade de France*

ORIOLE BASEBALL PARK

The Oriole baseball park at Camden Yards in Baltimore, designed by HOK Sports Facility Group was constructed in 1992 and it become clear that stadium can also be agent of urban regeneration. The huge v-shaped stand consists of three decks and is faced in traditional brick on the out side.



Fig. 3.6.8 Oriole Baseball Park in Camden Yards, USA. 1992. Capacity 48,000



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Fig. 3.6.9 No big gap between Stadium and Street; Oriole Baseball Park.

The design incorporates an old warehouse (1898), which serves as a backdrop to right field and lends the stadium a historical aura. The warehouse contains shops, pubs, restaurants and a museum and is separated from the stadium by an eleven-meter-wide promenade, the continuation Eutaw Street, and the thoroughfare linking the stadium with the city center.



Fig. 3.6.10 Oriole Baseball Park,
Focal point of the city.



Fig. 3.6.11 City buildings are part
of the Stadium. Oriole
Baseball Park.

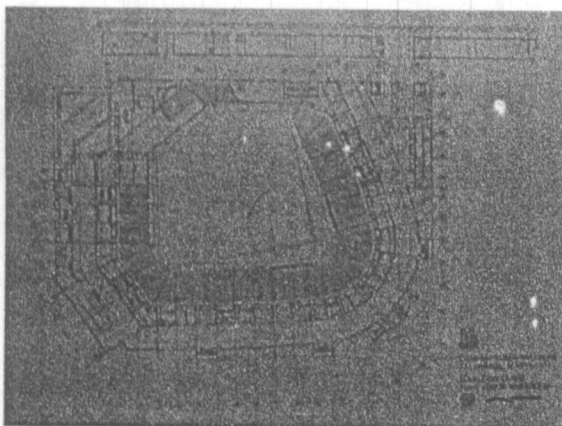
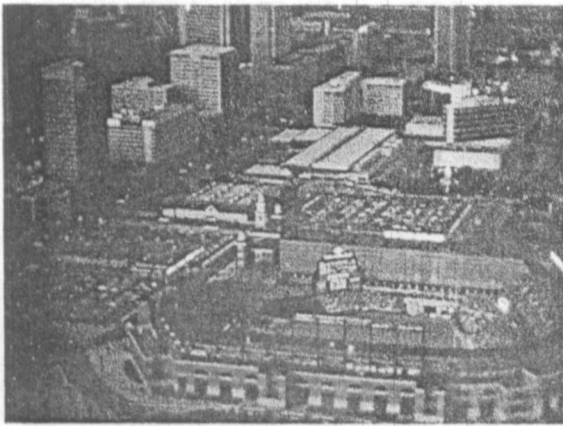


Fig. 3.6.12 Plan, Oriole Baseball
Park

The pitch is sunken so that the circulation gallery providing access to the stands is at street level. The stands themselves contain various spectator facilities and 72 hospitality boxes and three reception rooms. The stadium is still rarely considered as a part of a complete entertainment factory, but Stadia are occasionally being designed to form the core of commercial district.



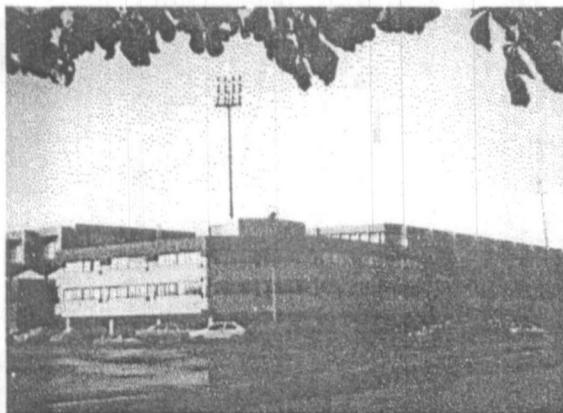
*Fig. 3.6.13 Oriole Baseball Park,
A complete
entertainment factory.*



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STADION GALGENWAARD

Galgenwaard Stadium was a pioneer in the field of stadium safety and multi- functionality. Its architect, Ballast Nedam, employed architectural devices in an effort to combat football hooliganism.



*Fig. 3.6.14 Stadion Galgenwaard in
Utrecht, Netherlands.
1977- 1982.
Capacity 20,000*

While there are no barriers around the ground, a sunken corridor (the moat) makes it practically impossible for spectators to invade the pitch. In nearly all stadia, the terraces behind the goals are the places favored by the most fanatical football fans.

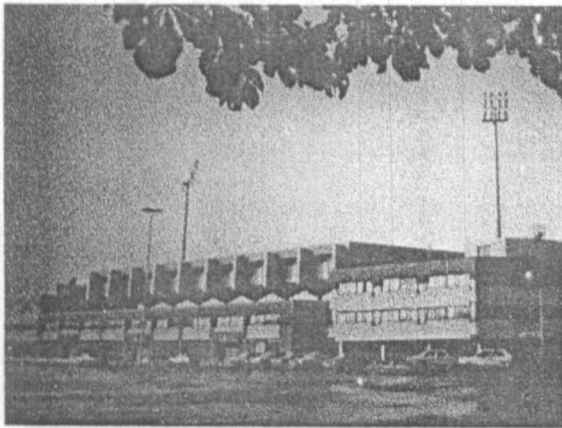


Fig. 3.6.15 Respond to the street and Surrounding Physical context; Stadion Galgenwaard

Traditionally, these standing room areas are the cheapest part of the stadium and usually so crowded that it is difficult for police and stewards to patrol them. Galgenwaard broke with this tradition by filling the areas behind the goal with proper seating. Another novelty in terms of European stadium construction was the fact that the building of the stadium was financed by the incorporation of 30,000m² office space. The offices are located in the corners (with a view of the pitch), between the four individual covered stands on each side of the ground and also underneath the stands. The architects Zwarts and Jansma have recently produced plans aimed at modernizing the stadium. The success of the original multi-functional approach is demonstrated by the rise in the number of square meters commercial space and the addition of 48 hospitality boxes.

In this type the stadium has totally become a well-merged part of the prevailing city context. Its neither grand in scale nor in detailing, but just a part of the city context. This type of stadium may be hard to identify from out side as it doesn't have many of the significant features that we have become used to associate with stadium buildings and also these are mix-use. So the functions are not only limited to sports. Other arrangements such as Cineplex, malls,

gyms, Balling alleys, children's areas, restaurants, offices etc. are incorporated in to these types of stadiums. Because of this extensive mix-use, these stadiums are economically well off and also socio-culturally very active. (Because of the gathering of people of different social class and economic groups and of different interests)

Because of these features this type could be most suitable to a third world country. It is economically sustainable and socially functional. It also caters to large number of other needs of a city. It blends with the prevailing context of the city, thus becoming highly suitable in strong cultural environments. (E.g. Kandy)



*Fig.3.6.16 Bank One
Ballpark, Phoenix
(Arizona).
1998*



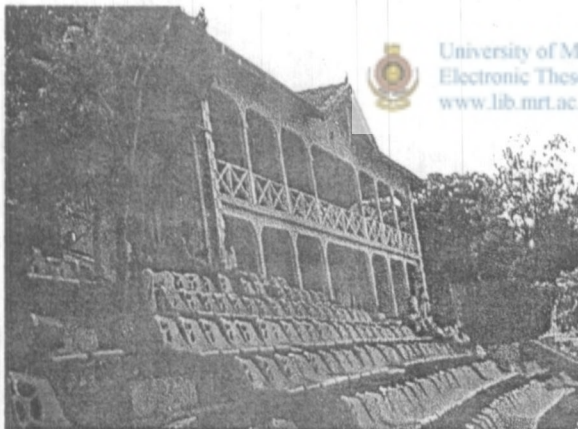
CHAPTER FOUR

Stadia in the Sri Lanka.

CHAPTER FOUR

INTRODUCTION

Sri Lanka is a third world country. Thus it has all the problems and issue usually faced by such a country. Third world countries are economically retarded. They usually consist multi-ethnic and multi-religious societies. The money they can spend on a project such as a sports stadium is very low and they can't simply afford failure. The number of sport events to be held in a stadium could be extremely low compared to a European country. Also, since the majority of the general public is poor, the amount they can pay to enter the stadium is relatively low. They are people with close social interactions thus encouragement required to come to a public place can be relatively low. They are also people with strong roots in their culture; thus any function or a place to be successful must favor their cultural beliefs.



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*Fig. 4.0.1 Asgiriya Cricket Stadium
in Kandy, Sri Lanka.*

There are about eight international Stadia in Sri Lanka such as Sugathadasa Stadium, Khetarama Stadium, SSC Stadium, Galle Stadium, Asgiriya Stadium, Radella Stadium, Uyanwatta Stadium and Dambulla Stadium. All of them are primarily cricket stadiums except the Sugathadasa out door stadium and arena. It may has happened because of the cricket is the most popular sports in Sri Lanka and it is the first sport that we could reached to the international elevation by getting the world championship in 1996. the Asgiriya,

Dambulla and Radella Stadia are sited on suburban areas, which are not very densely packed. But Sugathadasa, SSC and Khetarama stadiums are located on very valuable lands and very densely packed areas of the Colombo metropolitan. So, special attentions to be paid on them for make use maximally and optimally.

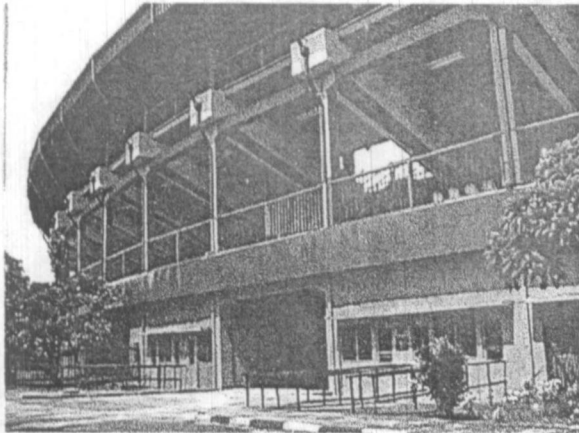


Fig. 4.0.2 Khetarama International Cricket Stadium in Colombo, Sri Lanka.

Sri Lanka has no very long history about mass sports buildings and had our modern city stadia not more than two decades before. At that time these locations were not very valuable, urbanized and important like today. And hardly can be find a good mix-use or multi-use International stadium in Sri Lanka.

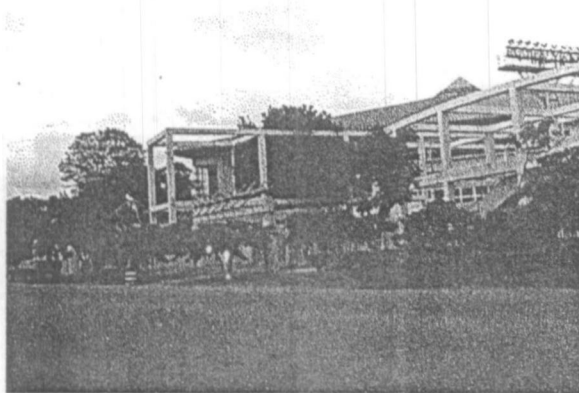


Fig. 4.0.3 Sugathadasa In-door Stadium in Colombo, Sri Lanka.

This examination is basically dedicated to find out whether this existing architectural idiom is suitable for the Sri Lankan dynamic society by analyzing the

world context of stadia. And it also tries to understand the most suitable architectural prototype of stadia which most fit to the current Socio-Cultural and Economic aspects of the country.



Fig. 4.0.4 The Temple of Tooth Relic in Kandy; The last link of the Sri Lankan Traditional Architecture.



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CHAPTER FOUR

4. 1 SOCIO-CULTURAL AND ECONOMIC BACKGROUND OF URBAN STADIA IN COLOMBO METROPOLITAN

Colombo is a highly dense and highly urbanized city and the capital of the Sri Lanka. About Twenty percent of the total population of the country is settled in the city consist of different races, religious, and social groups. But unfortunately about Fifty percent of them are living in shanty and squatter settlements in and around the Colombo Metropolitan. Colombo Metropolitan is basically a commercial city with ample of commercial activities. But it is made out of several wards with different characteristics, such as Industrial, Institutional, Residential and primary residential, Mixed-development, Recreational and Harbor related activities, and so forth. Colombo is a very dynamic city in the daytime, but very quietly go to sleep at the night. Colombo has an International recognition and international Harbor with a great capacity of services.



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Fig. 4.1 / Khetarama Temple Next to the Khetarama Stadium; both Social venues function separately without any interaction.

There are three major international stadia in the Colombo Metropolitan such as SSC, Khetarama, and Sugathadasa stadium. While SSC stadium is belongs to the private stadium category the others are coming under the public stadium category. The SSC stadium is a significant social center, which was commenced at the beginning of the Twentieth century.

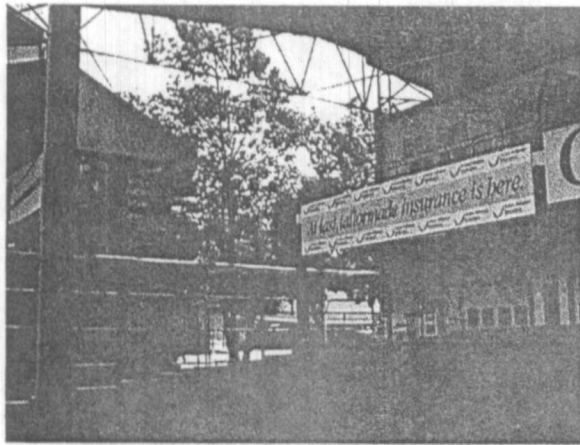


Fig. 4.1.2 SSC Stadium and Sports complex; The hall at the upper level is used some times as a reception hall for members weddings

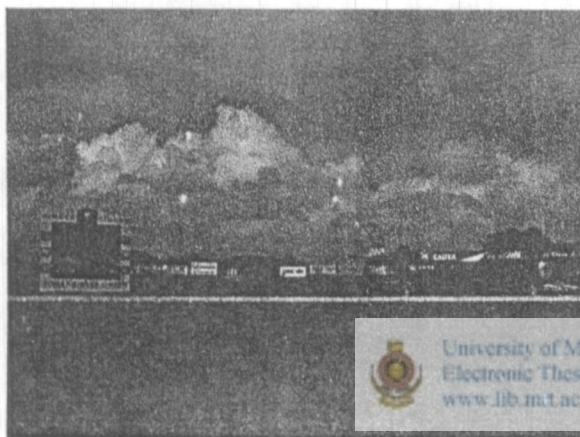


Fig. 4.1.3 SSC Stadium could be able to generate considerable income from advertising.

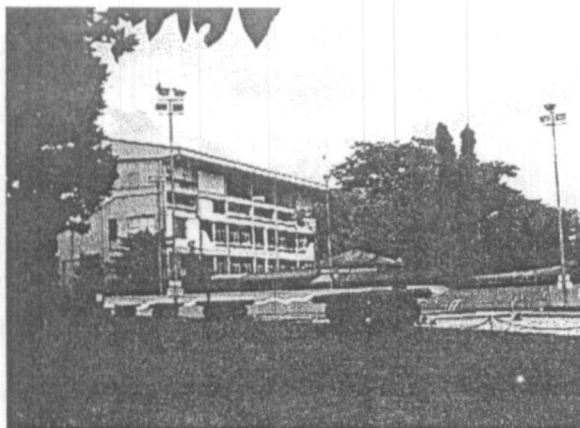


Fig. 4.1.4 The Pavilion in front of the SSC Swimming Pool has become a good community space for mothers who were waiting for their daughters

It is more spectators respecting place. All buildings of the stadium were not built in the same time but in different stages. So, It was a gradual development

through out the past century, parallel to the Social and economic development of the place. It has lot of social potentials and financial potentials as well as more freedom to further developments. However, the SSC stadium is basically acting as a good social venue for a certain community rather than a national stadium of the general public.

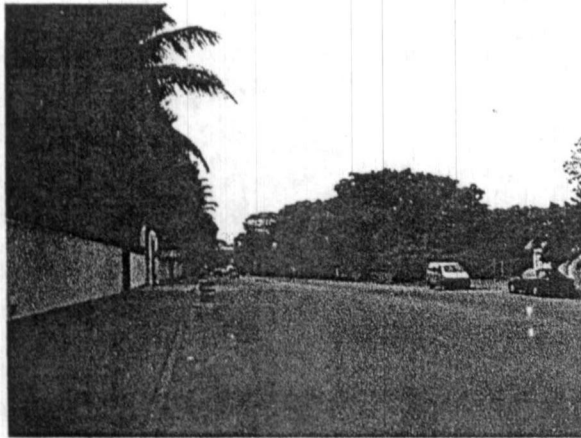


Fig. 4.1.5 Boundary Wall of the Sugathadasa Stadium; The Social barrier between the Stadium and the General Public

Sugathadasa stadium and Khettrama Stadium is completely belongs to the Government sector and very limited opportunity is there for the development of these stadia any further, like in the other government institutions. As because these places were prevailing as playing fields of local community for long time, they were constructed as sports stadia with necessary facilities in early 1980s.

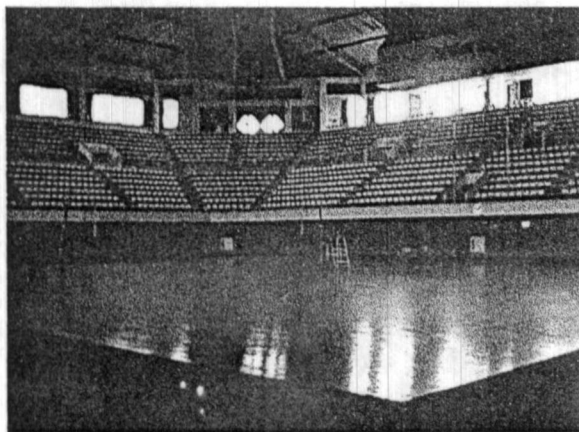


Fig. 4.1.6 Sugathadasa In-door Stadium; has a good demand for sports practices as well as for musical concerts.

Now they are serving as the national stadium of Sri Lanka, which has sport facilities for International standards. Unlike the SSC, this stadium has not become a significant social center. Even though, social gathering is encouraged by the design it has been discouraged by the governing authority. Sometimes ago it was allowed to have religious Rallies and meetings in the Stadium but later it was stopped completely due to the bad condition of the country and the security reasons. Thus they have more become high security zones like army camp with gun power store, rather than be a social public sports venues. Thus it is obvious that we have no good stadia, which fit to the contemporary needs of the twenty-first century. In Astrodome they have facilities for vehicle parking for the half of the total spectator capacity. And most of the European and American stadia becoming mix-functional entertainment centers which anybody can go any time and participate any entertainment activity without paying a big money for annual memberships. Thus they are becoming more familiar with the people and becoming the places of the people.



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Fig 4.7

*VIP Entrance of the
Sugathadasa In-door
Stadium; Grandness and
Greatness*

Sports are not a luxury component. It needs for the directors as well as messengers for both keep their physical fitness and releases the mental unrest due to the typical living pattern. Sports caused to make a healthy Nation of a country. And watching sports is becoming an interesting leisure activity among the many. Thus we need more stadia in Sri Lanka, but they should be the places of general public; they should be the places where awake the Nation with great

social and cultural expressions; and should be the places which could generate a revenue for its own survival, so become these places socially acceptable and economically feasible.

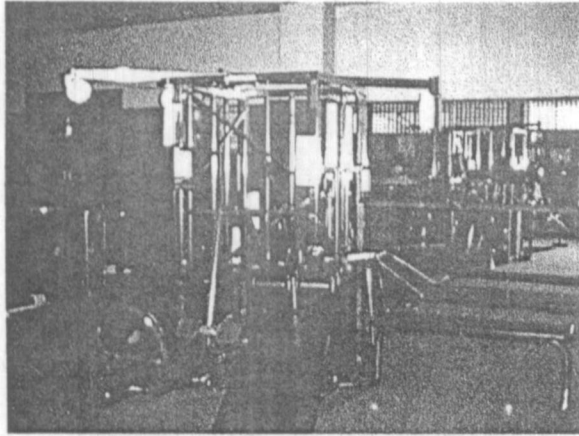


Fig. 4.1.8 The Gym in the Sugathadasa In-door Stadium; Getting in is allowed only for the Members

And that kind of work may be able to widen the social composition of the stadium users unlike today. The other important factor, which can be, affects to a developing country like Sri Lanka is the funds of the government can be reduced due to the other conditions of the country. Because of that any totally dependent Stadium could be faced to very hard situations in the future.

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CHAPTER FOUR

4. 2 KHETTARAMA STADIUM

Khettarama Stadium is the only one with totally covered tiers around the field and flood light system and has spread over about 20 acres of urban land. It is a public stadium, governs and maintain by the Ministry of Sports. Khettarama Stadium is basically used for play cricket and some times it may become a venue for seminars too. Naturally, it had been an instant favorite with thousands of cricket fans in view of the unique spectator comfort it offers.



Fig. 4.2.1 VIP Entrance of the Khettarama Stadium

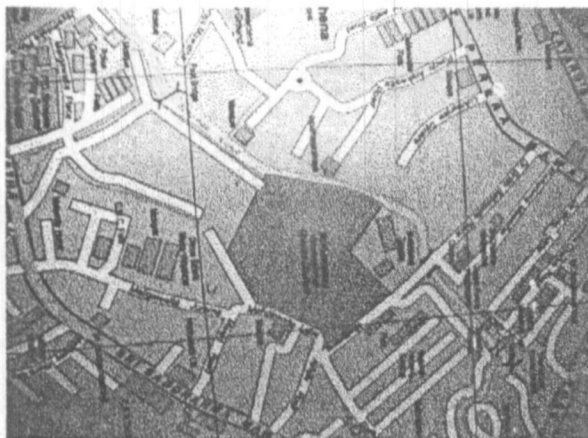


Fig. 4.2.2 Location Map of the Khettarama Stadium.

With a total seating capacity of 30,000 spectators it provides every spectator with good view of the action. A four-storied pavilion with a grandstand

view provides seating capacity for 700 spectators and facilities for good dressing rooms, cafeteria, conference room and VIP lounge. Two sightscreens incorporate a Press box, Radio commentators and Television booths together with rest rooms. There is space in the garden for 400 cars to park, which normally get the prior opportunity by the VIPs. And Khettarama was the Second stadium in the world to have floodlit facilities for day and night cricket matches after Australia.

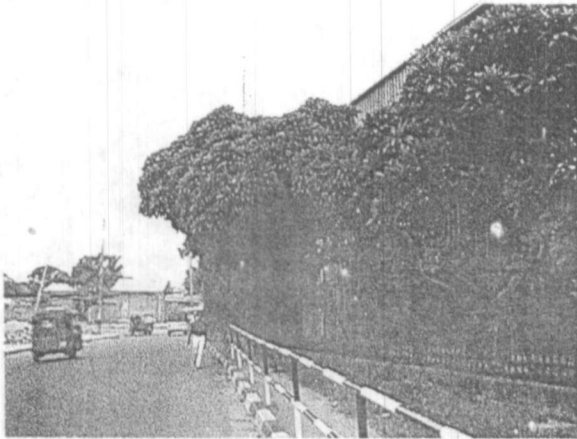


Fig. 4.2.3 Steel fence right round the premises by making it isolated



Fig. 4.2.4 Active Street, one of the boundaries of the Stadium premises; but no contribution from the Stadium side street activeness.

The khettarama stadium is located in Shanty settlement and low-income residential area adjoining the Khettarama Temple in Grandpass, Colombo. It has been totally covered with an iron fence to keep the place secure from the stealers and the drug addicts and now it has become a place like prison or rampart to the area. Thus there is no integration between the surrounding and the stadium. It

does not respond much to the existing physical context as well as the activity context of the surrounding and has caused to create a gray patch in the existing urban fabric of the area.



Fig. 4.2.5 Khettarama Stadium in Colombo, Sri Lanka. 1986 Capacity 30,000



Fig. 4.2.6 Valuable Urban land in the stadium premises, which could be used for development has been abandoned.

The Stadium is basically allowed only for National and International level cricket matches for very reasonable rates. For International events it is hired to the Sri Lanka Cricket Board to conduct it. But most of the time the place is idle and finds it difficult to gain an income, which is enough to maintain the stadium without having funds from the government sector.

The stadium is completely introverted building with bulky outside façade, which has just left as it is and appear the underside of the concrete tiers making an useless space which could be used at least for rentable store spaces.

According to the stadium manager there is no enough store space even for the stadium itself.

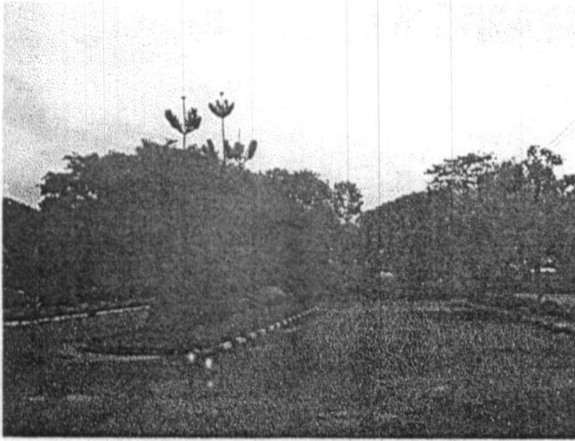


Fig. 4.2.7 Parking space of the Stadium.



Fig. 4.2.8 Idle space under the tiers facing to the road.

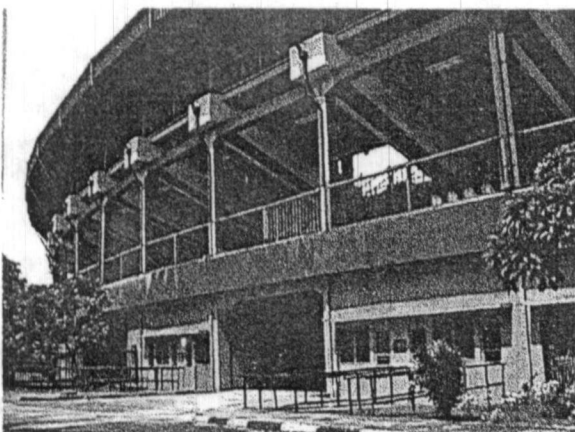


Fig. 4.2.9 A Public entrance to the concourse at the inside the boundary fence.

Khettarama is the National cricket stadium of Sri Lanka sited on a very isolated location, which may not be the best place. As the national cricket stadium it should be the place where generate the cricket for nation. And it should be a place of people; may be a museum or national academy of cricket for anybody in Sri Lanka. It has a very big role to play for both cricket devotees and the laymen.



Fig. 4.2.10 Low scale residential environment around the Stadium.



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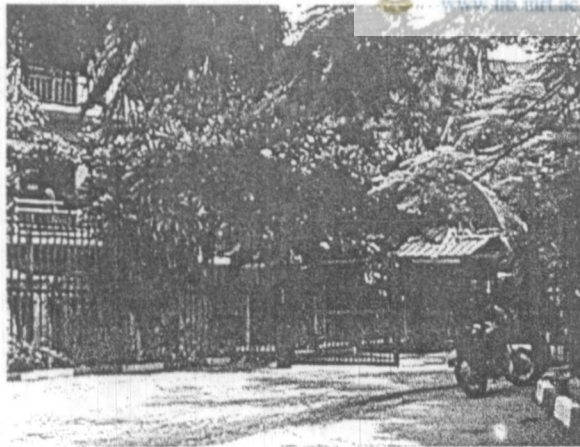
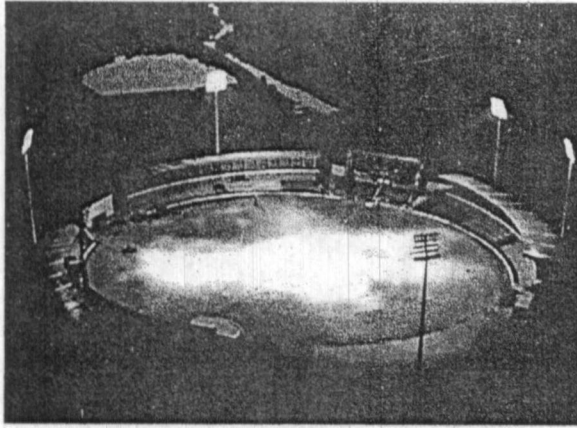


Fig. 4.2.11 Main Entrance of the Stadium



*Fig. 4.2.12 Khettarama Stadium,
play at night with Flood
Light system.*



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CHAPTER FOUR

4. 3 SUGATHADASA STADIUM

On 10th September 1983, a new chapter was written in the history of sports in Sri Lanka. It wasn't a new mark notched in any particular sport, but it marked a new high for sports, promotion in this country. This historic event was the opening of the Re-developed Sugathadasa Stadium now up-dated to international standards. The original stadium was the brainchild of the first minister of sports, the late Mr. VA Sugathadasa, a versatile sportsman and former Mayer of the Colombo. It was opened in 1962 and became the most popular venue for soccer and athletic meets. Over the years however due to exposure to the elements and unsatisfactory maintenance consequent on insufficient funds, the Stadium fell into disuse.



Fig. 4.3.1 Sugathadasa Out door Stadium in Colombo, Sri Lanka. 1983. Capacity 30,000

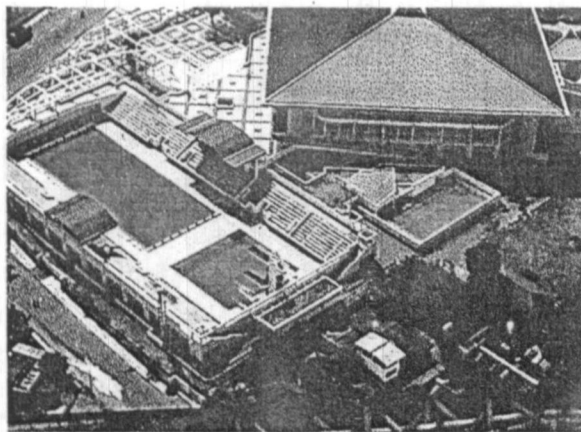


Fig. 4.3.2 Sugathadasa In-door Stadium and Sports Complex in Colombo, Sri Lanka 1983. Capacity 7500

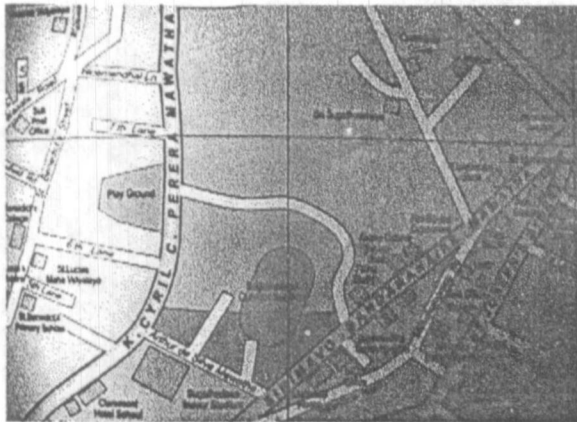
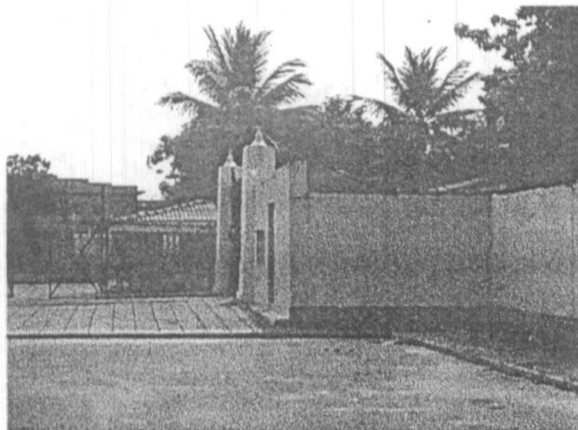


Fig. 4.3.3 Location of the Sugathadasa Out door Stadium.

A colossal sum of money was required to not only put the Stadium back into a usable state, but also up date it to international standards, so that we could have a sports arena, that would not be a showpiece, but provide adequate facilities for competitive sports. An expense of around Rs. 30 million was envisaged. With his customary imagination and initiative however the Hon. Prime Minister was able to collect this sum through the generous voluntary contributions of sports lovers, without placing a burden on State or even Municipal funds. Not only at home, but also abroad the Prime Minister's appeal for funds received a magnificent response. The playing area was completely re-done eliminating seepage and erosion.



*Fig. 4.3.4 Sugathadasa Out door Stadium.
1983.
Capacity 30,000*

A new clay-track was built capable of catering to the needs of athletes. The old tiers, which were in the open and exposed to sun and rain were replaced by new ones with overhead protection and capable of accommodating 20,000 spectators.

The old pavilion was demolished and a Grandstand Pavilion built, with a seating capacity for 2,500. Facilities at the ground were extended to take in Rugby, Football, Basketball, Hockey, Volleyball, Netball and a new Squash Court was also installed.



*Fig. 4.3.5 Sugathadasa Out door Stadium.
1983.
Capacity 30,000*



Fig. 4.3.6 Main Entrance of the in-door Stadium.

Sugathadasa Stadium is consist of the out door stadium, arena and the sports complex sited on two separate adjoining lands facing to the Prince of Wales Street in Colombo, Sri Lanka. The indoor stadium has various sports facilities with International standards such as Basketball, Badminton, Weightlifting, Judo, gymnastic, Volleyball, Table tennis, Boxing, Wrestling and Karate. It has designed for the capacity of 7500 spectators. And the sub arena contains four Squash courts and maintains a separate gym and indoor badminton court other than the main

arena for the practices of the members. Also it has an international Standard out door swimming pool complex in the arena premises with 2500 spectator capacity, comprising the Main pool, Diving pool, Practice pool, and the baby pool. Apart from that the Arena sports complex holding some other facilities such as Medical center, Changing rooms, Flood light system, Electronic score board, Audio mixture etc,

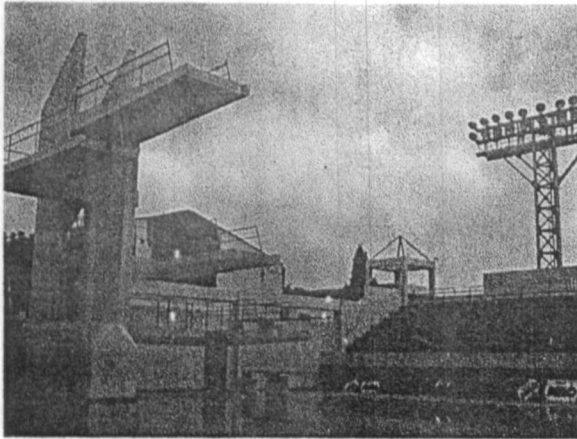


Fig. 4.3.7 Diving Pool.

The out door stadium has the capacity of 30,000 spectators to be accommodate in the covered tiers around the stadium and in the Lower grandstand, Grandstand and Upper grandstand. And it has facilities for sports such as Athletics, Volleyball, Basketball, Netball, Football, Tennis, Hockey, and Squash. And recently they have provided the facilities for Archery for the first time in a Sri Lankan public stadium. The Stadium has a Synthetic running track built in to International standards, a flood light system and a public address system.

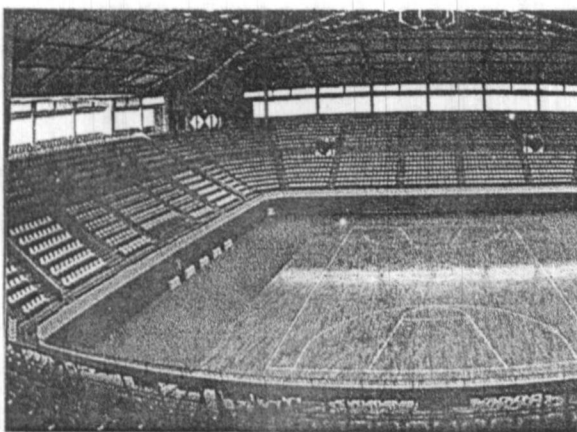


Fig. 4.3.8 Sugathadasa In-door Stadium.

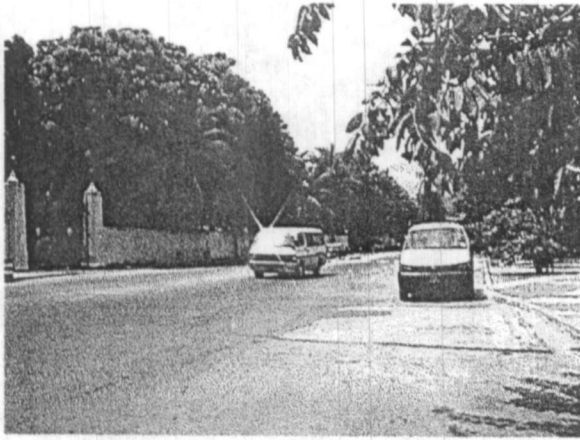


Fig. 4.3.9 Boundary Wall of the Stadium, facing to the street.



Fig. 4.3.10 Parking in front of the Out-door Stadium and the Physical fabric of the surrounding.



Fig. 4.3.11 Front Façade of the Stadium

Sugathadasa in-door and out-door stadium is the one and only place that we have up to the International standards. So, it has become a Nationally Important place to Sri Lanka and it is our national resource. Mainly this stadium is used by the National teams of football, Rugby, Volleyball, Basketball and Athletics. They do their usual practices in here. Even though there is no strong sports club like in SSC they give their membership to any body in Sri Lanka. But members have to spend about Rs. 10,000 per annum use the facilities in the center. So, at the moment, the facilities are consumed by a certain social class, generally come to the place at evenings after work, like in the SSC. So most of the time in the day it is idle. However, for school members, they rendered their facilities for very reasonable rates. Both of these places belong to the public and it doesn't generate an enough income to maintain the place. Thus it is also funded by the government like in the Khetarama stadium. Sugathadasa stadium and sports complex situated in a low scale commercial district, which has low rise stores, wholesale shops, retail shops of building materials and motor spare parts etc.

As a National venue it should reflect the national pride of the country but is facing to the Kandy-Colombo main road with a flat high boundary wall, which may not be the best way to respond to the royal street of Sri Lanka.

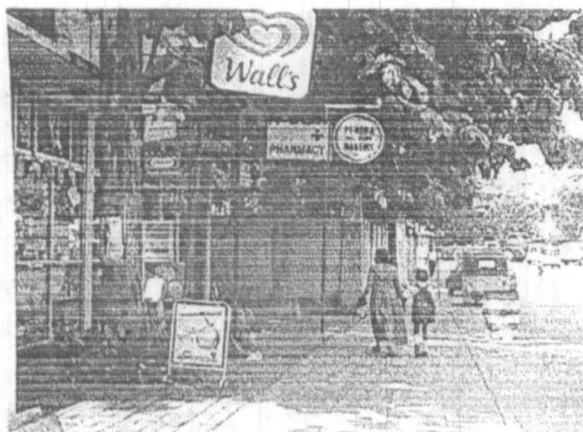


Fig. 4.3.12 Recently opened Commercial development in the Out-door Stadium premises. A Sign of Mix-use.

CHAPTER FOUR

4.4 SSC STADIUM

Singhalese Sports Club began in 1899 and constructs a sport field and sport complex on government leased land in Colombo 07. It is a completely private Stadium conduct by the club committee. It covers about 19 acres of land with International Cricket Ground and Sports Complex which consists with facilities for different other sports such as Badminton, Squash, Indoor Cricket, and Out door nets, Tennis Courts and Swimming Pool. Even though the sport is the primary function of the place, it serves the members who not actively connected to the sports. The other facilities such as Restaurant, Children's Play area and gardens have given a different face like Community Center.



Fig. 4.4.1 Members Parking area of the SSC stadium

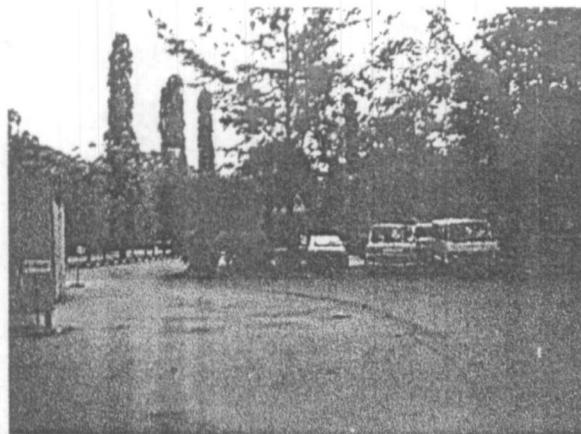


Fig. 4.4.2 There is only about 100 parking lots in side the premises.

SSC mainly caters to the Sri Lanka Cricket Board by hiring their ground facilities for international events and for club members, adjoining schools and sports clubs of the area. Their major income comes from the Cricket Board and secondly from the membership fees collect from the members. Apart from that they rent out the sport facilities to schools and clubs generate considerable revenue. Thus SSC could be able to survive financially by itself.

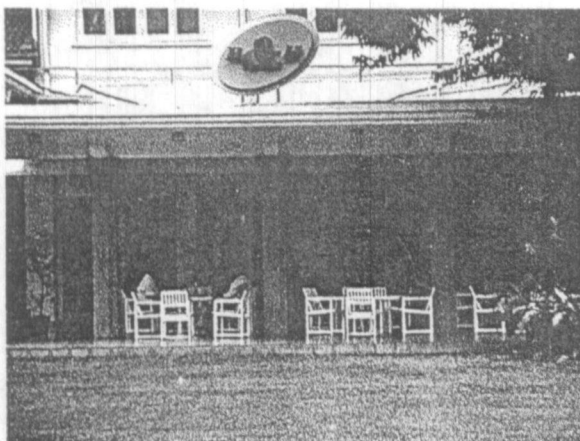
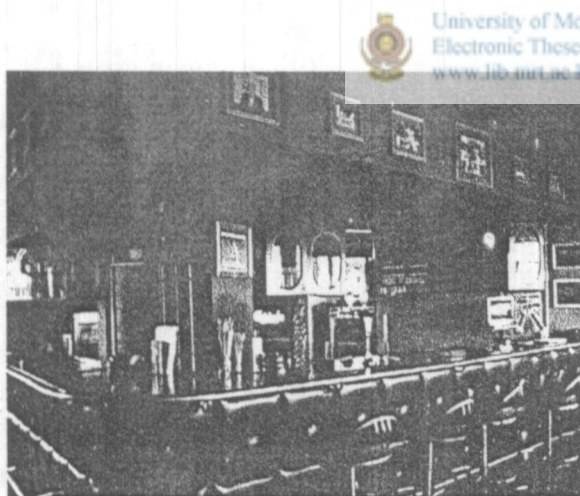


Fig. 4.4.3 The restaurant over viewing the Garden.



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Fig. 4.4.4 Newly designed Bar in SSC Stadium

The restaurant, which opens from one side, is over viewing the turf in front. And there is an excellent visual connection between the parents who are having drink at the restaurant with their friends and children playing at kids play court. Thus the restaurant has become a good social interacting center for members. Most of them used to come their daily and met their friends and some times have a bear

from the bar beside the restaurant. The newly designed bar (by architect Turner Wickramasinghe) is over viewing the pitch. So, members who having their drink while making a chat with their colleges about their business and social matters feel the smell of the grass and the cool breeze over the ground. The field is used by the members who may not be sportsmen but concern about their health conditions, for jogging at the evenings after work; has become a part of their life. Thus it is behaving as a great social center and place to improve the health conditions for the members. SSC is a Mix-functional space and so that it is active and busy at the many times of the day. It functions not always on the pitch but in other places like Badminton courts, Squash courts, Tennis courts, Swimming pool, Function hall, Children's park, Restaurant or Bar. And frequently this place becomes a venue for weddings or parties too.



Fig. 4.4.5 Buffet in the Restaurant.

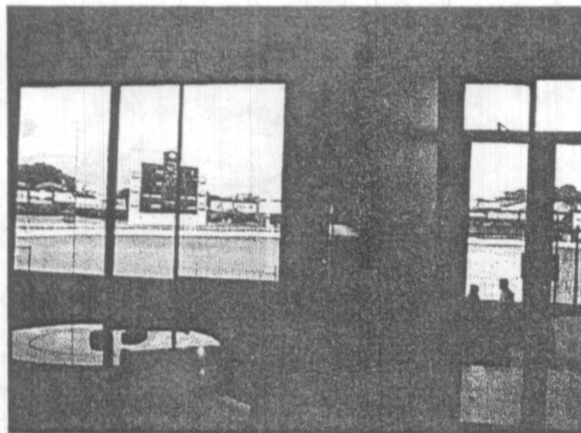
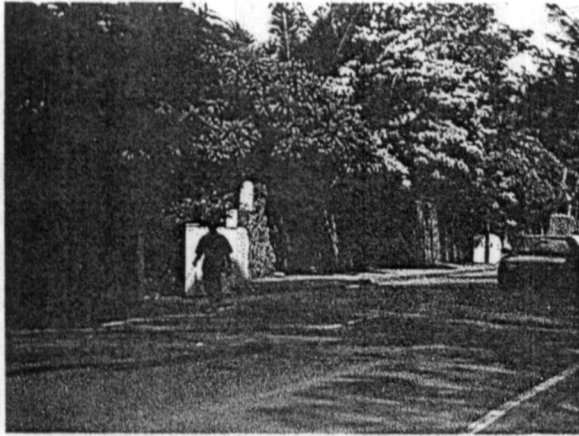


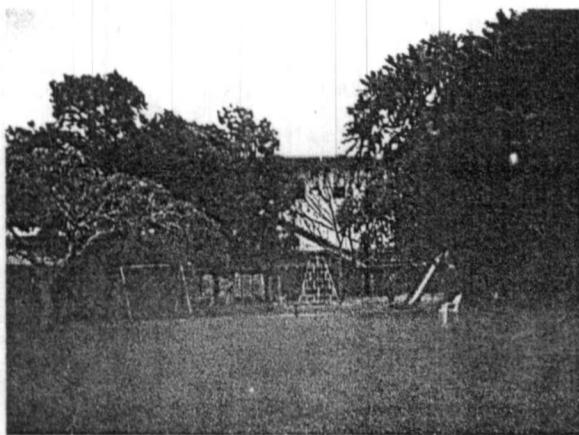
Fig. 4.4.6 View of the ground to the Bar.

SSC ground is set on the very prime location of the Colombo Metropolitan, surrounded by the NCC ground, a Ministry, Export Development Board, some institutional buildings like SLIA and upper class residences. The club itself is opened to a certain Social group, which mostly living in the surrounding primary residential area. So stadium has become a more private place for that social structure rather than place which anybody welcome.



*Fig. 4.4.7 Main Entrance to the Stadium.
Two separate gates for entrance and exit, like in old English house.*

The main entrance of the stadium is very similar to residential entrance in that context and because of that it gives very domestic feeling rather than a feeling of entering to commercial complex. The landscape pattern in the parking area in children's court and in gardens are also little emphasis the residential atmosphere.



*Fig. 4.4.8 Children's Court.
A view from the restaurant.*



Fig. 4.4.9 Passage between the Entrance Lobby to Restaurant and Ground

The passage leading from the entrance to the main building is very low in scale. One side of this corridor is a nice turf and on the other side there is the children's play space and you cannot see the field until enter to the main building. The swimming pool is located in a little higher elevation than the level of the restaurant and as a result of that even the girls could continue their practices while having there privacy from the main spaces. The two-story pavilion building in front of the swimming pool is functioning as a another community space, generally parents of the students, practicing in the pool sits there and proud of their kid's abilities.

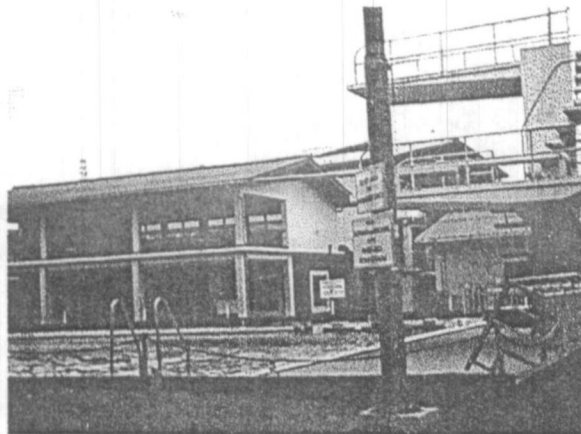


Fig. 4.4.10 Swimming Pool Complex.

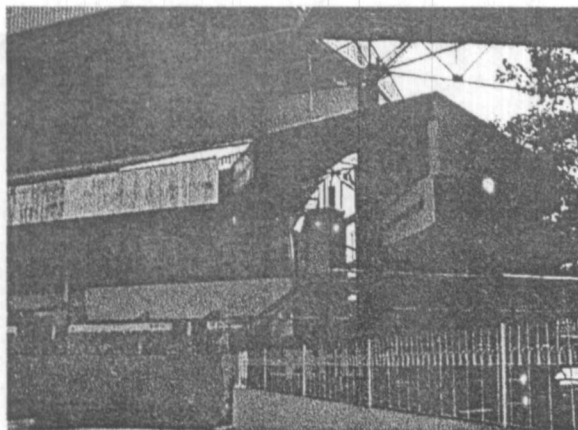
Service areas of the premises have been separated from the public activities and there is a separate service entrance to the kitchen and stores. And some times, institutions surround it use some facilities of it. NCC ground use parking places

when they have a function and also they share machineries with SSC. Army personals that are working in the Camp, situated in front of the Stadium are use front parking lands for their training purposes like band practices, when there is no major function in the ground.

There is a new building is constructing adjacent to the entrance lobby for their officials and they expect to fix a flood light system for the ground in resent future and at the moment it has about 6,000 members in their club. Even though it serves for certain category, It can be presented as a profitable establishment and socially acceptable place.



*Fig. 4.4.11 SSC ground.
1899
Capacity 22,000*



*Fig. 4.4.12 Main Stands;
SSC, Colombo.*

CHAPTER FOUR

4.5 ARCHITECTURAL EVALUATION OF SRI LANKAN STADIA REFERING TO THE WORLD CONTEXT AND SOCIO-CULTURAL AND ECONOMIC BACKGROUND OF THE COUNTRY.

Colombo is not a larger city comparing to the cities in the world. Road network of those may be very densely woven, thus it may be an impossible task to find a massive land for Mass Buildings like in the Astrodome in Houston. And opportunity cost of these lands may at a higher value due to the limited area. Because of that the stadium architecture of those countries should have been come up with different faces than in the developed countries, which may consume a small plot of land but optimally used. In developed countries stadia are direct by the private and public collaborations. But most of the stadia in the developing countries are belongs to the governments of those countries. And development potentials of those countries are very limited due to various causes.

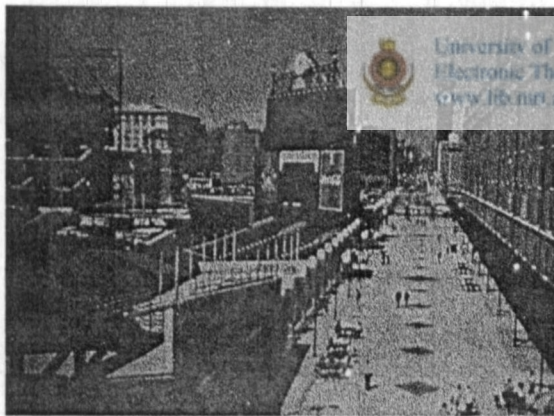


Fig.4.5.1 Oriole Baseball Park,
Camden Yards

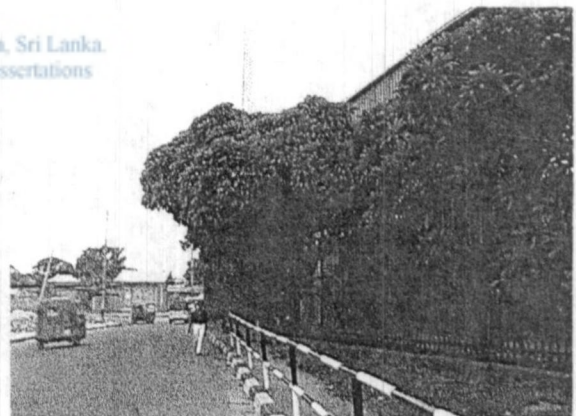


Fig.4.5.2 Khetarama Stadium,
Colombo

The location of the Khetarama stadium is not sound enough. As, it is surrounded by hi-density residential environment and the location itself is isolated. The architectural language of this building is also not very distinct like in the San Shiro Stadium in Italy or Olympiastadion in Germany. The structure of the stadium has become more powerful to express itself. The person who walking at the road hardly sees their National stadium as it is through the iron fence ride round the

premises. This factor is very common for most of the Stadia in Sri Lanka. As a result of that integration between the stadium and the city has become very weakened and caused to divide the city into different parts. The Oriole Baseball Park is a very good example for how to integrate the city and the stadium successfully.

Sugathadasa Stadium probably sited on a good place. But same as in the early example it is also not responding to the surrounding context and not responding to the street itself. The Stadion Galgenwaard in Netherlands is situated in a very limited land plot surrounded by a tight road network, very similar to the Sugathadasa Stadium in Colombo. But it has successfully responded to the adjacent street with original multifunctional approach.



Fig.4.5.3 Sugathadasa Stadium, Colombo

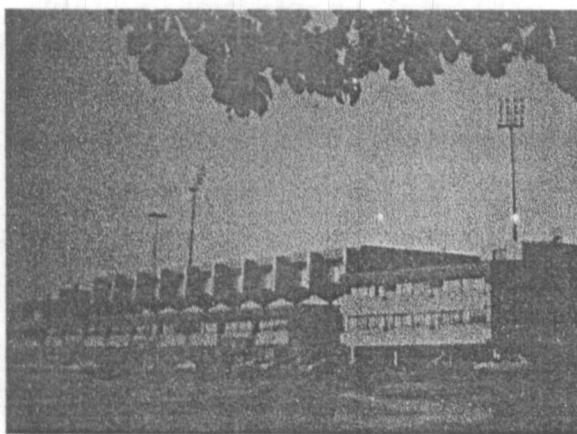


Fig.4.5.4 Stadion Galgenwaard, Netherlands.

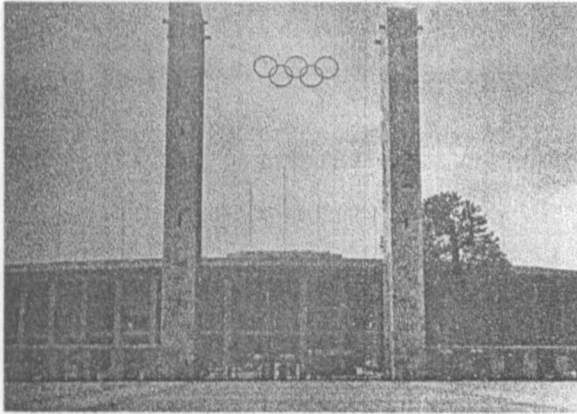


Fig.4.5.5 Olympiastadion, Germany.

However the SSC Stadium become accomplished for some extend it cannot be taken as a national or public place. But it has getting well within its limits as a private entertainment and sports canter.

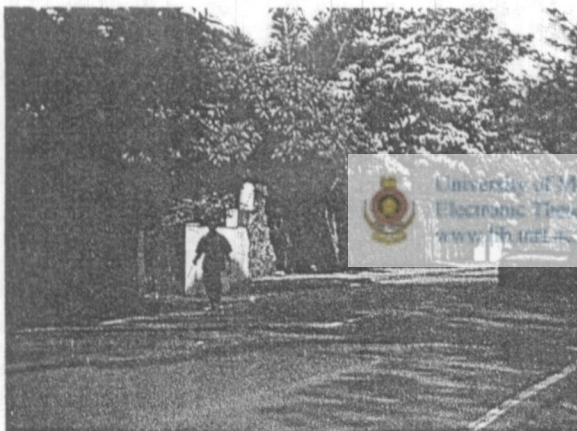


Fig.4.5.6 SSC Stadium, Colombo.

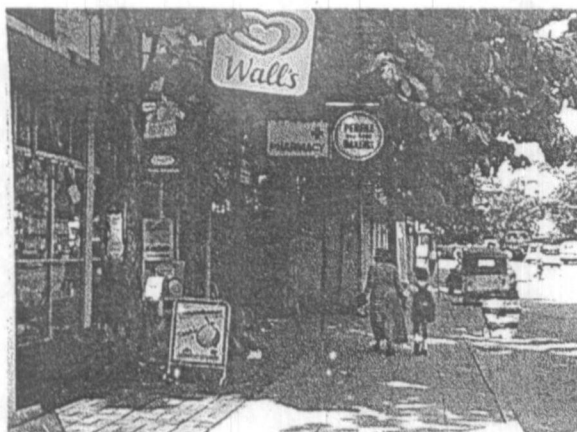


Fig.4.5.7 Sugathadasa Stadium, Colombo

So according to the above-mentioned facts if any stadium is to succeed in the third world environment of Sri Lanka may useful to consider the following course of actions

- 1.** *The capital that has to be spending on the initial construction of the stadium should be affordable.*

Use of affordable material and construction techniques might help.

- 2.** *The maintenance and running cost should be minimum.*

Using durable materials, employing maintenance free and energy efficient methods could realize this goal up to a certain limit.

- 3.** *The earnings of the stadium must not depend entirely on the sports events.*

Some additional profitable functions must be in cooperated in to the building. The best way should be to make the stadium in to a social gathering space by introducing such functions such as shops, cinemas, restaurants etc. Various functions, cultural and social can also be held in the premises.

- 4.** *The stadium should cater to the immediate surrounding social context.*

It is essential to the success in the long run, because they are the most likely, to use the facility at any given time.



CONCLUSION

CONCLUSION

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As the study revealed, the various generations of stadia, came up with unique types of buildings, with their own architectural styles as well. When studied closely it become clear that each type was the direct result or the product, of the socio-cultural and economic situations of that particular era. Socio-cultural and economic factors of a country changed with time. So, the types of stadia they created, changed as well.

Out of the ever-changing trends of stadia styles in the world, six clear types could be identified;

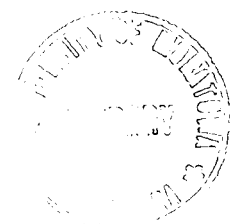
- Façade dominant
- Large in scale
- Sculptural stadia
- Object stadia
- Part of nature
- Part of the city



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Each of the above styles is the creation of various methodologies and requirements of different eras of the history of the Stadia. Thus each is a well-suited product for the socio-cultural and economic background it belonged to. But most of them become utter failures, out of the conditions, under which they were produced. So it is essential that the stadia, must cater to the socio-cultural and economical situation it belong to, if it is to be successful. We Sri Lankans are facing the issue of our Stadiums fast becoming just dead spaces within our cities, exactly because our stadia don't.

From the detailed study done in the third chapter about the above types of stadia, it is clear that all of them have different measures of qualities that can suit our socio-cultural and economical necessities. So they all can help to create the ideal stadium to suit the local situation. But the vital responsibility of selecting the



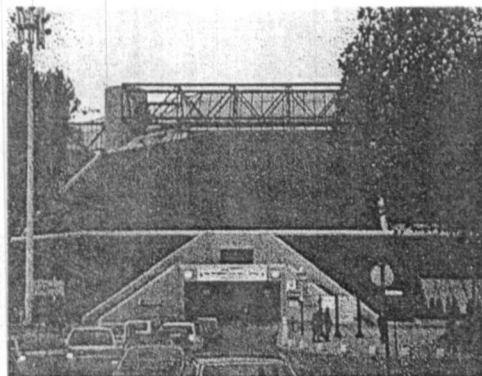
Conclusion

correct combination of these qualities to make the ideal stadium for Sri Lanka, lay entirely on the hands of the designer.

Out of the above types, the latter two have more qualities that could suit our needs. 'Part of Nature' presents us; relatively low cost (capital and running) and environmental friendly solutions while the 'Part of the City' teaches us the value of keeping in harmony with the immediate physical and social context. Another extremely helpful theory it brings forward, is the 'mix-use' of the stadia.


The designer must take great care to compose the essence of all these ideologies to achieve a creation that is well suited to the socio-cultural and economic situation of Sri Lanka. The construction material and the techniques must suit local conditions. The functioning of the stadium must be in harmony with our climate and environment. The construction and running costs must not burden the feeble third world economy of our country thus making the stadia affordable. Mix-uses that are, socio-culturally acceptable, economically viable and are harmonious with surrounding physical and social context must be introduced. For an example, mixing functions like shops, commuter stations, restaurants will be ideal for a stadia proposed for Pettah, while functions like malls, Cineplex and office spaces will be ideal to be mix in to a stadium proposed for kollpity region. Also the Architectural language must suit the socio-cultural situation and the context of the built environment of the area.

Then only, we will see a stadium that is socially and economically functional and also sustainable in the future.



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