



Pre - Feasibility Study for Redevelopment of Indira Gandhi Stadium Complex under PPP Mode

NITI Aayog,
Government of India

Final Report
2019



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Our sub-contractor MOFA studios Pvt. Ltd. has carried out architectural assessment of the site in respect of master planning potential, the information provided by them has been included in proposing development options and product mix for Indira Gandhi Stadium Complex.

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GLOSSARY

AFC - Asian Football Confederation

CWG – Commonwealth Games

DBFOT- Design Build Finance Operate Transfer

DCF – Discounted Cash Flow

DDA – Delhi Development Authority

EPC – Engineering Procurement Construction

FAR- Floor Area Ratio

FIFA - the International Federation of Association Football

GOI – Government of India

IGS Complex – Indra Gandhi Stadium Complex

IOA – Indian Olympic Association

MYAS - Ministry of Youth Affairs and Sports (MYAS)

NCR- National Capital Region

NITI – National Institute of Transforming India

O&M – Operation and Maintenance

PPP- Public Private Partnership

SI- Sports India

STC – Sports Training Centre

WACC- Weighted Average Cost of Capital

TOD – Transit Oriented Development



**EXECUTIVE
SUMMARY**

EXECUTIVE SUMMARY

BACKGROUND

Sports India (SI), the implementation body under Ministry of Youth Affairs and Sports (MYAS) currently operates and maintains five stadiums in Delhi i.e. Jawaharlal Nehru Stadium (JLN Stadium), Indira Gandhi Stadium (IGS Complex), Dr. Karni Singh Shooting Range, Dr. Shyama Prasad Mukherjee Swimming Pool Complex and Major Dhyana Chand National Stadium. Out of these 5 stadiums, SI intends to improve and upgrade existing sports infrastructure to world class standards and assess the potential of developing other sports, allied and supporting commercial activities at Jawaharlal Nehru Stadium and Indira Gandhi Stadium on Public Private Partnership (PPP) basis.

In consultation with NITI Aayog, as mentioned in Box-1, SI appointed Ernst & Young LLP (hereafter referred to as “EY LLP” and “consultant”) to carry out a Pre-Feasibility Study for Redevelopment of Jawaharlal Nehru Stadium (JLN Stadium) and Indira Gandhi Stadium Complex (IGS Complex) on PPP basis to achieve the aforementioned objectives¹.

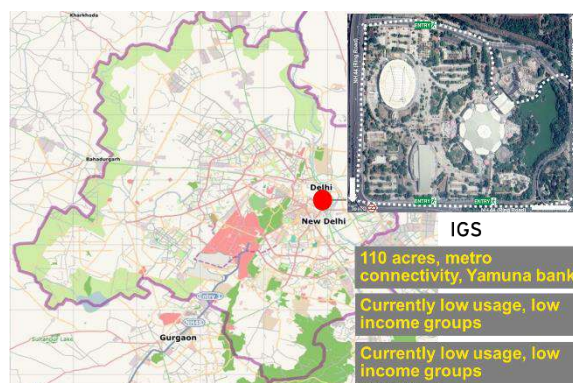
BOX-1: Objectives of the Project

SI consulted NITI Aayog to undertake development of Indira Gandhi Stadium with the primary objectives as stated below:

- The stadium should address the needs of all sections of sports community
- The development should be financially self-sustainable
- The design should incorporate hostel / hotel / service apartment accommodation requirement for players and coaches (3 to 5 star accommodation)
- The stadium should be able to accommodate a footfall of 20 lakh
- The stadium should be open and accessible to every strata of society
- Sporting facilities for senior athletes should not be affected during construction phase
- The design and operative mechanism of the stadium should encourage younger generation to use the facilities
- The stadium should adhere to international standards of athletic events

EXISTING SITUATION

Indira Gandhi Stadium Complex, a national level stadium, is located in Central-East on the periphery of Yamuna Bank in Delhi. The complex is spread across 110 acres with 3 stadiums namely the indoor stadium, cycling velodrome & wrestling stadiums with a seating capacity of 15,000, 6000 & 3800 respectively. The stadiums are designed and constructed to meet international sports standards. It is owned and managed by SI on behalf of Ministry of Youth Affairs and Sports (MYAS).



The catchment area constitutes highly dense commercial as well as residential areas of Delhi. Laxmi Nagar, a popular residential and commercial area; Preet Vihar, dominant HIG residential, commercial and institutional area; Patparganj (Indraprastha Extension) home to a large number of group housing societies and an industrial area and Mayur Vihar, again a HIG dominant residential area situated across the Yamuna River, are a few major areas located in the immediate vicinity of the stadium.

¹ The objectives have been identified in consultation with SI and NITI Aayog for self-sustainable development of sports infrastructure facility.

Accessibility

The stadium is easily accessible through roads, metro and other modes of public transport. The nearest metro stations for accessing the stadium is ITO metro station, located at a distance of 2 km respectively.

REDEVELOPMENT STRATEGIES FOR THE STADIUM

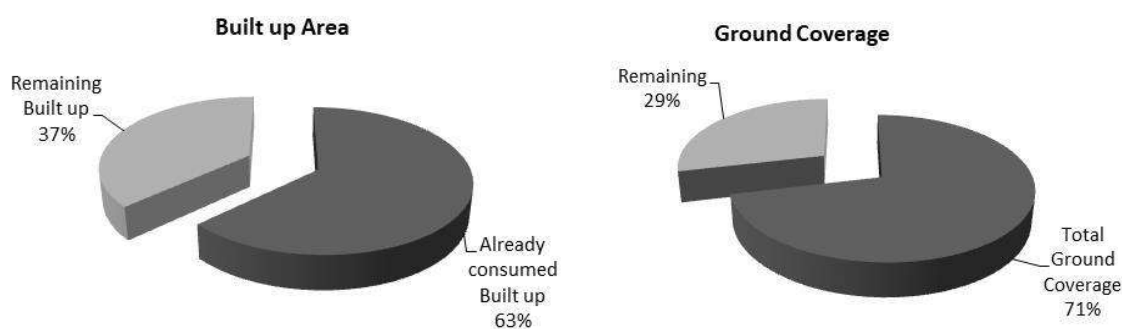
The objective of developing IGS Complex is to introduce “Sports in the DNA of the nation”. A mini sports city shall be developed which would offer “state of the art” training facilities. It would be accessible to all classes of people/ strata of society at national and international level.

Based on preliminary assessment of the existing facilities at IGS Complex² and proposed objective for overall development of the stadium, two options were evaluated for undertaking financial viability.

1. Redevelopment by 40 FAR as prescribed by Master Plan for Delhi 2021

The stadium complex falls under Zone O of the Zonal Development plan under Master Plan for Delhi 2021. It is categorized as Public Service-3 (PS-3) under Public-Semi-Public Zone which includes Sports Facilities/ complex/ Stadium/ Sports Centre. With the applicable FAR of 40, a ground coverage of 20% is permitted as per existing Delhi Bye Laws.

As defined in figure below, the total area demarcated as the IGS Complex is 104 Acres or 42.09 Hectares. With an available built up of 40 FAR, 60% of the applicable FAR has already been consumed in making various sports facilities. Similarly, nearly 70% of the total applicable Ground coverage is consumed in the existing facilities, excluding open to air field-of-play and other facilities. This gives a total of 106,200 Sq.M of remaining Built up and 8.3 Acres of remaining ground coverage to build additional facilities.



Only 29 % Utilizable ground coverage remaining as per existing norms.

² The consultant conducted site visits of IGS Complex and carried out primary surveys with users and SI, in order to evaluate existing user profile and assessment of infrastructure facilities.

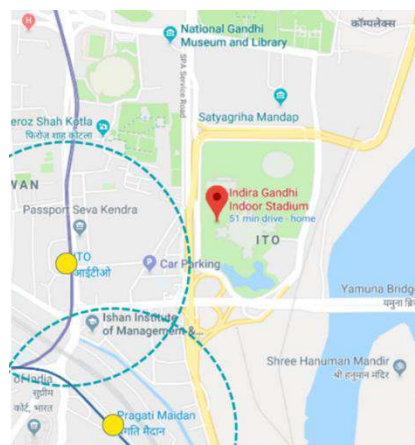
Table 1: IGS Complex Area Statement & Ground Coverage

Indira Gandhi Stadium - Area Table			
Description	Area (Sq M)	Acre	Hectare
Total Site Area	445,170	110.00	44.52
Total Built up area allowed	178,068		
FAR	40		
Total Ground Coverage (20 % allowed)	89,034	22.00	8.90
Indira Gandhi Stadium - Built up Area			
S.No	Existing Functions	Total Built up (Sq M)	Ground Coverage (SqM)
1	Main Stadium (Gymnastics)	49500	18800
2	Velodrome Stadium	23000	16000
3	Wrestling Stadium	23000	12000
4	Hostels	10700	3500
	Total	106200	50300
Balance Areas			
Description	Area (Sq M)	Acre	Hectare
Remaining Built up Area	71,868	17.76	7.19
Remaining Ground Coverage	38,734	9.57	3.87
Allowable Commercial built up (5%)	8,903		

2. Redevelopment by 400 FAR as per Transit Oriented Development (TOD) Policy

The National TOD policy focuses on creating high density mixed land use development of areas falling in the influence zone of transit stations, i.e. within a walking distance of 500-800 meters or along the transit corridor, provided the station is within 1km of site.

In case of IGS Complex, the nearest metro station, i.e. ITO metro station and Pragati Maidan metro station. Since these stations are beyond 1 km radius of nearest transit facility, therefore, the TOD norms shall not apply wherein an FAR of 400 can be utilized for development. In addition, the presence of 'The Firoz Shah Kotla' monument which falls under the Archaeological Survey of India list of protected monuments, will lead to limited construction activities.



CONCLUSION

Based on the above estimates, the total area available in case of 40 FAR is ~62,000 sq.mt. An indicative product mix has been evaluated. The table below highlights the product mix for redevelopment @ 40 FAR:

Table 2: IGS Complex Product Mix at FAR 40

Product Mix at 40 FAR				
S.No	Programme	Built up (SqM)	Percentage	Cost (Cr)
1	Existing Infrastructure Sports	46,800.00	65%	34
2	Sports Club with 20 rooms	9,328.00	13%	27
3	Retail (Government / semi government Office + Food joints)	8,400.00	11.69%	20
4	3 Star Hotel	7,340.00	10%	55
	Total	71,868.00	100%	136

In the existing FAR byelaws of the MPD 2021, the built up or the programme includes, Adventure sports hub and sports university apart from the up gradation, utilization and optimization of the existing sports facilities.

In case of IGS Complex, the nearest metro station, i.e. ITO metro station and Pragati Maidan metro station. Since these stations are beyond 1 km radius of nearest transit facility, therefore, the TOD norm of Intense & standard TOD zone shall not apply.

The presence of ASI protected Firoz Shah Kotla monument within the 100 + 200 M buffer zone greatly affects the applicability of TOD polices on to the complex. The Yamuna River development Authority also restricts construction in the area as it is low lying and prone to flooding. The 2 permissions along with the distance from the metro station make the applicability of 40 FAR more feasible.

Based on the conceptual development option for 40 FAR, financial analysis was carried out by the consultant. The table below summarizes the key results of the analysis.

Table 3: Key Financial Results

Particulars	Unit	@ 40 FAR
		Value
Total project cost	INR Crore	124
Annual revenues (stabilized operations in 6 th Year)	INR Crore	70
Equity IRR	%	18%
Annual concession fee (escalated by 5% year-on-year)	INR Crore	0
Revenue share – bidding parameter	% of total revenues (from sports and non-sports/ commercial)	32%
Concession period:		
a. For stadium	Years	a. 30 years
b. For commercial		b. 45 years

RECOMMENDATIONS

SI has invested heavily in creating state of the art facilities at IGS Complex during the Commonwealth Games event held in Delhi 2010. Apart from managing the day to day operations of IGS Complex, SI also focusses on imparting high quality sport training through various schemes at a subsidized rate. To help SI achieve its objective to promote sports, it is proposed to introduce the PPP framework for augmentation, operating and maintaining the stadium through a private developer without impacting SI's core activities. Various government instrumentalities have used the PPP framework to improve efficiency, maximize revenues across infrastructure sectors in India. There is ample space within IGS Complex (as detailed out in Development Options section 3 of this report) which may be utilized by

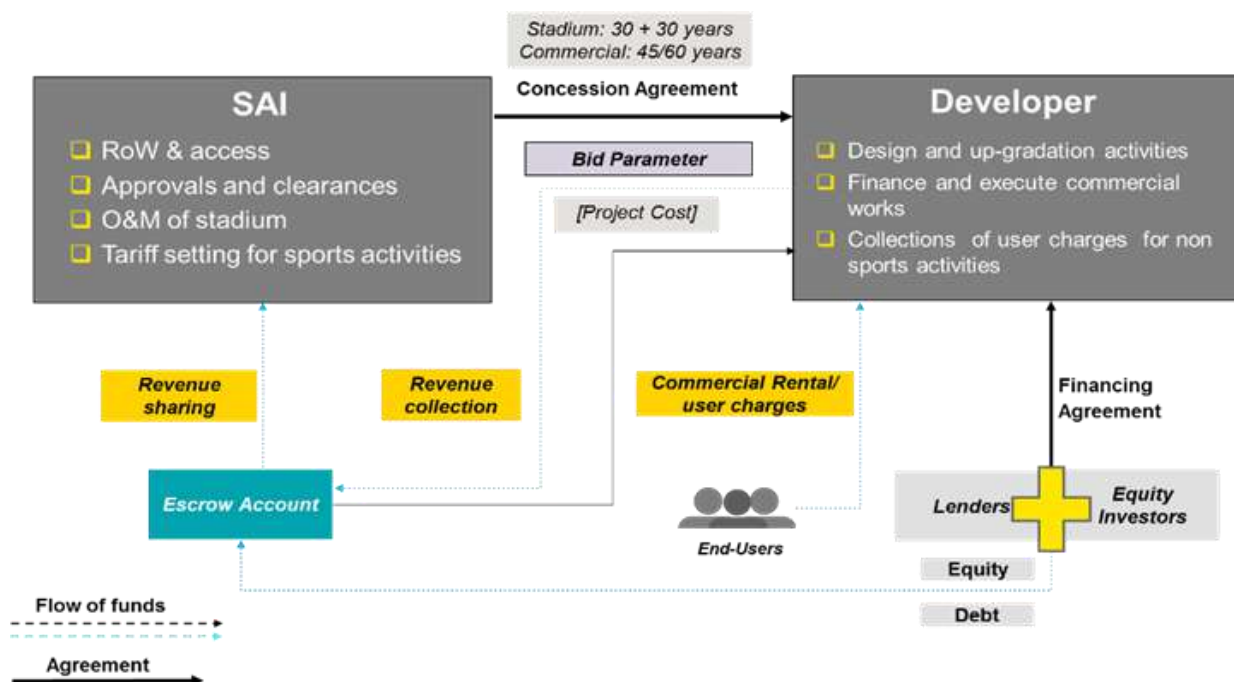
the private developer for sports club and office space. The stadium is located close to monuments of national importance (Ashoka Pillar, Raj Ghat) and Yamuna river bed. Therefore, before undertaking the transaction phase, the Authority would be required to undertake statutory approvals from Archaeological Survey of India and Yamuna River Development Authority which may result in implementation delays.

As per the financial analysis, for an equity IRR of 18% the revenue share is estimated to be between 25% - 32% with no provision of an annual concession fee escalated annually.

PROPOSED PROJECT STRUCTURE

A DBFOT concession structure is proposed for development of IGS Complex for a 45 year concession period and a 30 year period for stadium operations. The model has been summarized in the figure below:

Figure 1: DBFOT Model



Key contours of the model are:

- To upgrade current sports facilities, operate and maintain the same for 30 years as per specified performance standards.
- Further, develop additional sporting facilities, operate and maintain them for 30 years
- Develop, operate and maintain commercial areas as per applicable laws for [45 (30+15) - 60 (30+30) yrs.].
- Sports facilities to be regulated by SI but operated and maintained by private sector



**PROJECT
APPRECIATION**

1. PROJECT APPRECIATION – INDIRA GANDHI STADIUM COMPLEX (IGS COMPLEX)

Indira Gandhi Stadium Complex, named after former Prime Minister of India, is the largest indoor stadium in India and third largest in Asia. It is a prestigious national indoor stadium, built within an area of 104 acres. The facility has a seating capacity of 15,000 and abodes state of art facilities for the dedicated sport athletes of India. The stadium has contributed substantially in providing sports infrastructure for activities like Gymnastics, Cycling, Wrestling and Boxing etc.

1.1 STADIUM ACCESSIBILITY

Indira Gandhi Stadium Complex, located at Indraprastha Estate, is situated close to the bank of Yamuna and is connected to Trans Yamuna area in the east though Vikas Marg (Yamuna Bridge). The facility is connected by National Highway 44 from North and West with entry access through Sachivalaya road in the East. IGS Complex is situated on the intersection of NH-44 and Vikas Marg, giving ample connectivity options for the users coming from adjoining region of Delhi-NCR, Haryana and Uttar Pradesh respectively.

Inderprastha Metro Station (Blue Line) and ITO Metro Station (Violet Line) of Delhi Metro are the nearest metro stations connecting to the stadium, located at a distance of nearly 1.6 km and 2.5 km from the facility, respectively.



1.2 OVERVIEW OF SPORTS FACILITY

IGS Complex was developed as multi-use sports ground where several national and international sports events have been held in the past. The stadium was constructed with an objective to meet the international standards of Indoor sports. Some of the renowned sportsmen who have represented India at international level have been using IGS Complex owing to the unparalleled access to the best infrastructure and coaches. The stadium facilitates the following sports activities³:

- Badminton
- Cycling
- Gymnastics
- Judo
- Sepak Takraw
- Table Tennis
- Wrestling
- Wushu

Other facilities at IGS Complex include:

- Volleyball (outdoor)
- Jogging Track (Outdoor)
- Billiard and snooker

³ Information has been collated based on site visits on IGS Complex and discussion with SI.

- Recreational and health lifestyle facilities cycling and walking track
- Fitness centre including sauna bath and massage
- Yoga
- Sports medicine centre
- Sports rehabilitation and post recover exercises,
- Sports Psychology centre

The current infrastructure broadly includes:

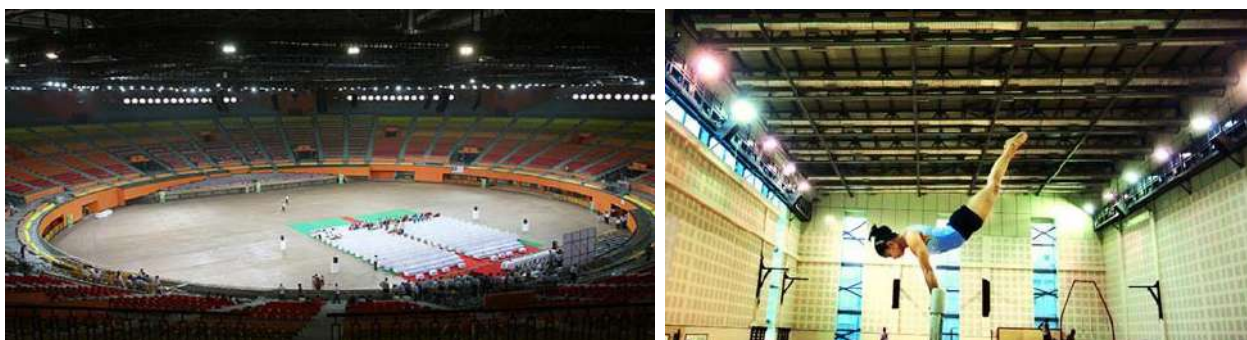
- Warm Up hall (Basketball)
- Old Boxing Hall
- Warm Up Hall I (Gymnastics)
- Warm up Hall II (Boxing)
- Main Arena – KDJW Stadium
- Main Arena (Gymnastics Stadium)
- First Floor Public Concourse of Cycling Velodrome
- Cycling Velodrome
- Walking Track
- Outer periphery KDJW
- Open spaces

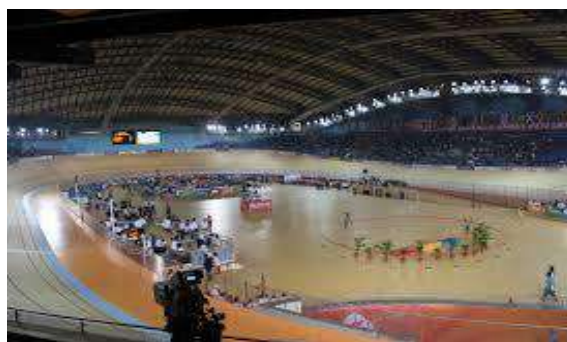
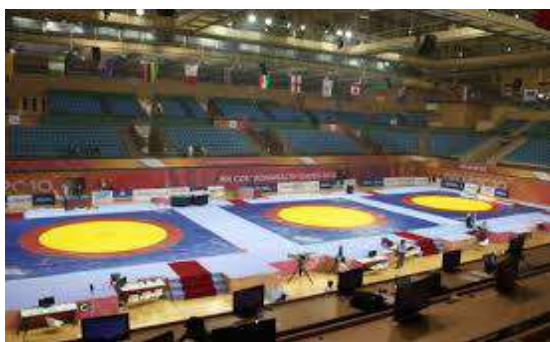
Gymnastics stadium was refurbished for the Commonwealth Games in 2010. It is an air conditioned indoor stadium with seating capacity of 15000 spectators and includes two warm up halls for gymnastics and boxing. The main hall is also used for badminton and Table Tennis.

K.D Jadhav Wrestling Stadium has a capacity of 5000 spectators and has a warm up Hall which is used for basketball training also. The hall is also used for Judo, Wushu, Taekwondo and Sepak Takraw.

IGS Complex has India's only magnificent and state of art cycling Velodrome, which is an air conditioned indoor stadium having capacity of 3000 spectators. Velodrome features steeply banked oval tracks consisting of two 180 degree circular bends connected by two straights. The straights transit to the circular turn through a moderate easement curve.

Figure 2: Existing IGS Complex Sports Facilities





Revenues from the existing sports facilities are generated primarily through the 'Come and Play Scheme' of Gol and renting out assets to national teams/ league franchises for training. Use of assets for hosting events such as concerts and other non-sports activities is also being undertaken however limited owing to the limited scale of multi-purpose facilities. SI has taken efforts to allow online viewing and booking of stadium for sporting events to enhance asset utilization.

1.3 CATCHMENT AREA

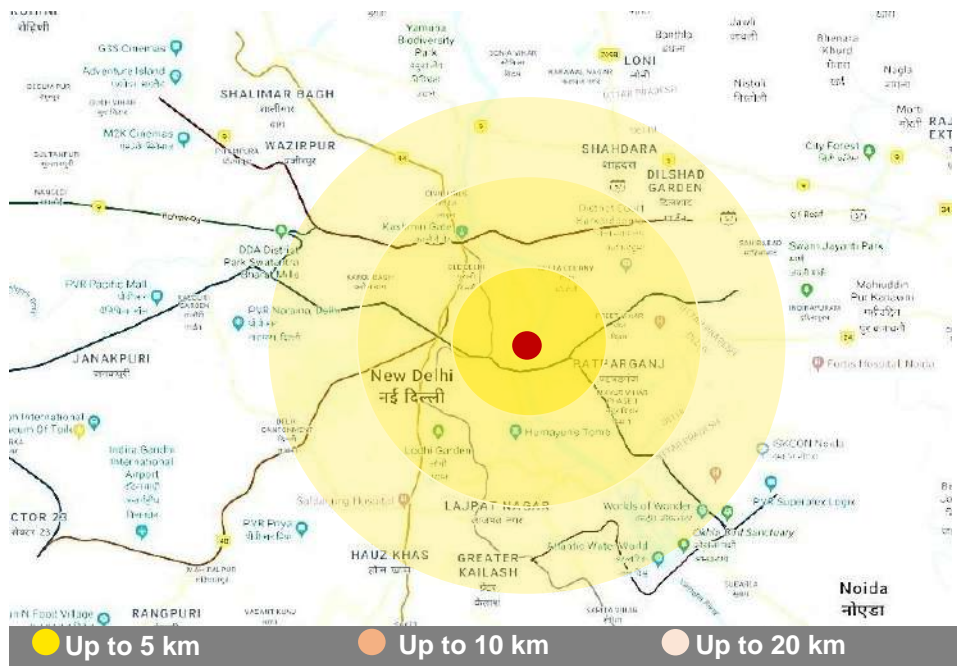
A review of leisure and sporting facilities in the catchment area and benchmarking principles indicate that local or municipal recreation or sporting facilities have a primary catchment radius of approximately 5 km and a secondary catchment radius of 10 km. Approximately 75% to 85% of users reside within a 5 km radius while the remaining 15% to 25% come from areas within the 5 km to 10 km radius of the facility. Developing a stadium with state of the art sports infrastructure will attract users from a much wider catchment area⁴.

The catchment area is also influenced by a number of other factors, including range and quality of facilities and services offered, natural and built barriers i.e. road connectivity, travel times and the availability of any other competing facilities. Considering regional planning principles, it is common that facilities usually share catchment areas, particularly secondary catchment area. The figure below illustrates catchment area within 5 km, 10 km and 20 km influence zone of IGS Complex.

The stadium is situated geographically in the core of Delhi NCR and its catchment area constitutes highly dense commercial as well as residential areas of Delhi. Laxmi Nagar, a popular residential and commercial area; Preet Vihar, dominant HIG residential, commercial and institutional area; Patparganj (Indraprastha Extension) home to a large number of group housing societies and a large scale industrial area and Mayur Vihar, again a HIG dominant residential area situated across the Yamuna River, are a few major areas located in the immediate vicinity of the stadium.

⁴ Major Regional Sports Facility Feasibility Study, City of Darebin, September 2014

Figure 3: IGS Complex Catchment Area



S. No.	Locality	Population Range
1	Laxmi Nagar	35,000 - 45,000
2	Geeta Colony	20,000 - 35,000
3	Mayur vihar	30,000 - 35,000
4	Patparganj	25,000 - 45,000
5	Preet Vihar	20,000 - 35,000
6	Nirman Vihar	15,000 - 30,000
7	Shahdra	40,000 - 50,000

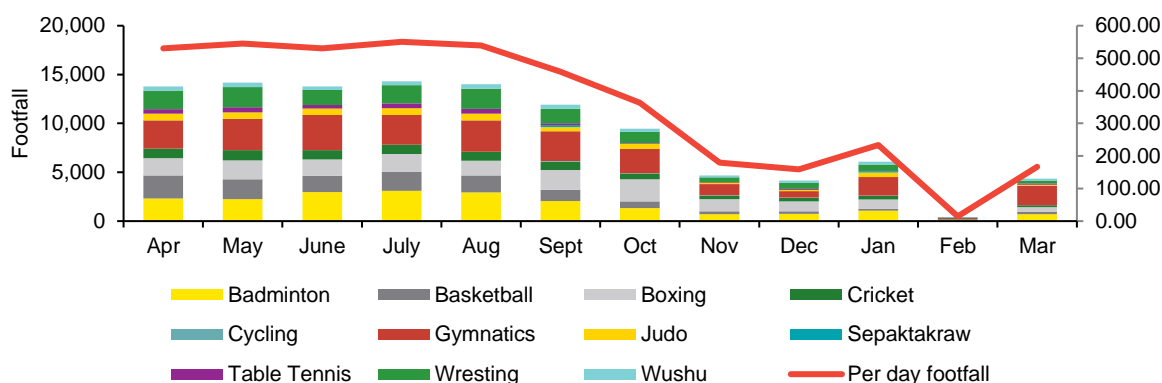
1.4 USER CATEGORY AND USAGE

Majority of the users of the stadium are registered under Come and play scheme. Highest footfall has been recorded under the Gymnastics and Badminton sports categories out of all of the sports available in the complex. The stadium also recorded substantial footfall of campers and elite athletes owing to the academies under the following disciplines:

- Cycling
- Gymnastics
- Boxing
- Basketball
- Taekwondo

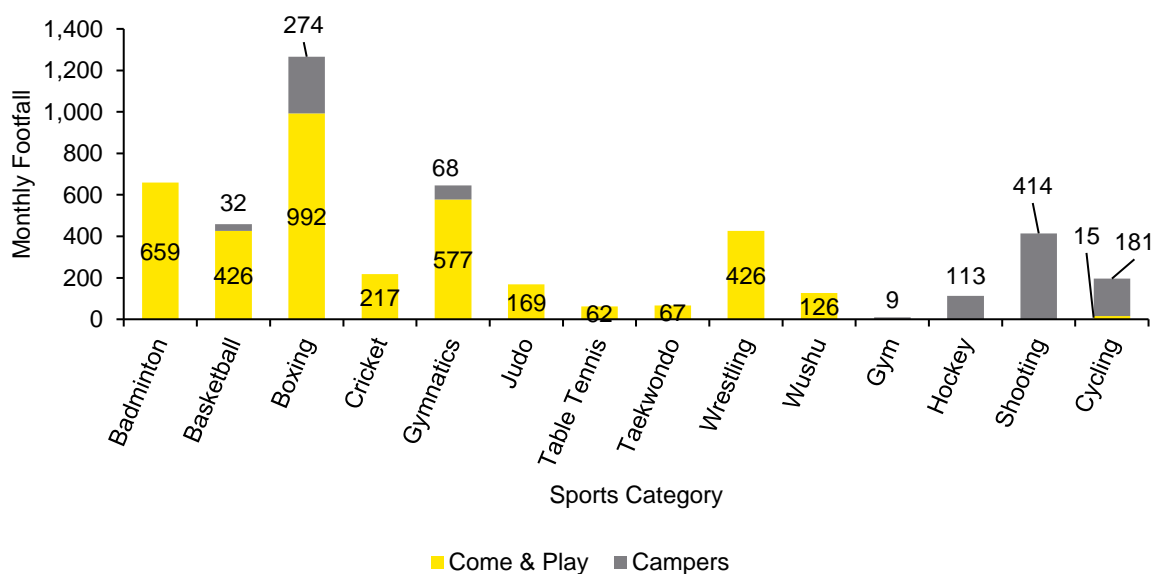
Figure below depicts the monthly footfall under various sport activities:

Figure 4: Monthly Footfall Under Various Sport Activities



The figure below depicts the share of “Come and Play” users and campers in various sports. Sports like boxing, Gymnastics and cycling have a significant attendance of campers and elite athletes. On an average, about 87% of the users are members of the “Come and Play” scheme and rest of the 13 % belong to campers and academy trainees.

Figure 5: Monthly Footfall in Various Sports Category



1.5 STAKEHOLDER’S PERSPECTIVE

It is imperative to identify major stakeholders of the project who would help define a vision for the development. A comprehensive stakeholder engagement would help identify the requirements of the sports fraternity and accordingly design the facilities. This would also help achieve higher utilization of the infrastructure facilities.

1.5.1 Sports India

SI intends to upgrade the current facility at IGS Complex into a world class sports stadium in terms of infrastructure and utilization. Below are some of the key objectives which SI aims to achieve⁵:

⁵ The objectives have been identified in consultation with SI and NITI Aayog for self-sustainable development of sports infrastructure facility.

- The stadium should address the needs of all sections of sports community.
- The development should be financially self-sustainable
- The design should incorporate hostel / hotel / service apartment accommodation requirement for players and coaches (3 to 5 star accommodation).
- The stadium should be able to house a footfall with 20 lakh viewers
- The stadium should be open and accessible to all classes of people/ strata of society
- Sporting facilities for senior athletes should not be impacted during construction phase
- The design and operative mechanism of the stadium should encourage younger generation to use the facilities
- The stadium should adhere to international standards of athletic events
- The sports facilities should be segregated for elite athletes and recreational sports

1.5.2 User Interaction

Majority of the users at IGS Complex belong to the “Come and Play” category. IGS Complex has a substantial footfall of campers under Gymnastics, Cycling, Boxing etc., and during interaction most of them were satisfied with the infrastructure and coaches but some issues also came to light such as absence of a canteen/cafeteria/food court facility, insufficient coaches, sitting arrangement for parents / waiting areas, spatial segregation of sports and poor state of cricket facility. Users presented positive reactions for prospective facilities such as 24/7 gym, swimming pool and sports shops. Redevelopment of the facility would be a positive step to meet the user demands.

To assess the facilities and consult various stakeholder at both the sites, EY carried out extensive survey for three days carried out on 2nd June, 5th June and 8th June 2018 during the evening hours. EY had prepared separate survey questionnaires for each stakeholder. Prior to undertaking the survey, EY and NITI team jointly had visited each site for a reconnaissance survey and conducted an informal discussion with all stakeholders. The details of the primary survey conducted at JLN stadium is included in Annexure A2.

A cityscape at dusk with a large yellow overlay containing the text "MARKET ASSESSMENT". The background shows a city skyline with various buildings, including a prominent tower with a red and white top. The foreground features a large, curved, metallic structure, possibly a stadium or arena, with a series of circular openings. The sky is a mix of dark blue and orange, suggesting sunset or sunrise.

MARKET ASSESSMENT

2 MARKET STUDY

Market study is the most crucial aspect driving project conceptualization and feasibility assessment. It is critical to understand the competitive assessment framework of the market in which the stadium is expected to operate and expected footfall. The first key task for assessing potential development in these proposed facilities is to determine the market demand for each offered sport as well as latent demand for new facilities. This was undertaken through conducting a detailed site assessment and study the competitive developments in the vicinity of the stadium. This section undertakes detailed assessment of competitive sports and retail facilities in the vicinity of Indira Gandhi Stadium Complex.

2.1 COMPETITIVE SPORTS FACILITY

Indira Gandhi stadium was developed with vision of providing world class sports infrastructure to the next generation of sports talent in India, irrespective of the economic strata they belong to. The current sport facilities provided by SI in IGS Complex are highly subsidized in order to cater to the needs of dedicated sports persons which majorly embark from low to middle economic strata.

Given the advantage to IGS Complex for its geographical location in Delhi, some of the major sports complexes which compete owing to similar infrastructure with varied sporting and allied activities are namely Yamuna Sports Complex and Commonwealth Games Village Sports Complex. Both of them are operated by Delhi Development Authority (DDA) and are mainly utilized by middle to high income group users.

A comparative analysis between IGS Complex, Yamuna Sports Complex and Commonwealth Games Village Sports Complex was done on the following parameters:

- Provision of sports facilities
- Provision of non – sports facilities
- Land availability and utilization
- User profiles
- Membership options
- Number of academies / camps

Table 4: Sports Facilities in catchment area of IGS Complex

No.	Name of Facility	Area (in acre)	Distance from IGS Complex (in Km)	Opening year	Managed by
1	Yamuna Sports Complex	67.95	8.9	1999	DDA
2	Commonwealth Games Village Sports Complex	NA	4.9	2010	DDA

2.1.1 Provision of Sports and Non-Sports Facilities

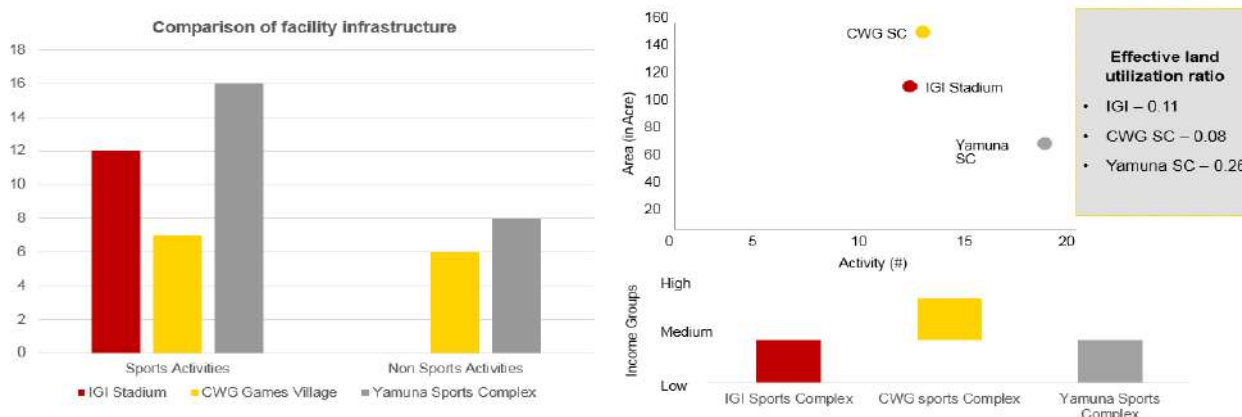
The figure below illustrates the gap in non-sport activities that other competing sport complexes offer to its users ultimately leading to an enhanced sport experience with other allied recreational activities. Effective land utilization of IGS Complex is significantly lower as compared to Yamuna Sports complex and CWG Games Village Sport Complex, that have demonstrated substantially higher utilization owing to their small area and no. of users availing higher number of facilities. The higher number of offering of these sport complexes have significantly mobilized the youth in catchment area to inculcate these sports/recreational activities in their daily life and sport complexes are now a hub of youth affairs.

Note:

- a. Sporting facilities includes cricket, football, athletics, wrestling, weightlifting, cycling, shooting, badminton, lawn tennis etc.

- b. Non – Sports facilities include aerobics, yoga, recreational games such as bowling, virtual games etc.

Figure 6: Comparison of Facility Infrastructure



The land utilization ratio of IGS Complex is the highest as compared to the other two stadiums. On the other hand, Yamuna Sports Complex offers much more activities than IGS Complex.

2.1.2 User Profile

2.1.3 Membership Options

Table below is a comparative analysis that depicts the higher freedom of choice that the users enjoy in availing the membership for any sport at Yamuna Sport Complex and CWG Games Village and IGS Complex. Further, the existing training centres/academies provide users a plethora of options for specialized training. The competing sports facility also offers individual sports facility on hourly basis, which contributes to increased footfall.

Table 5: Membership options in competing complexes

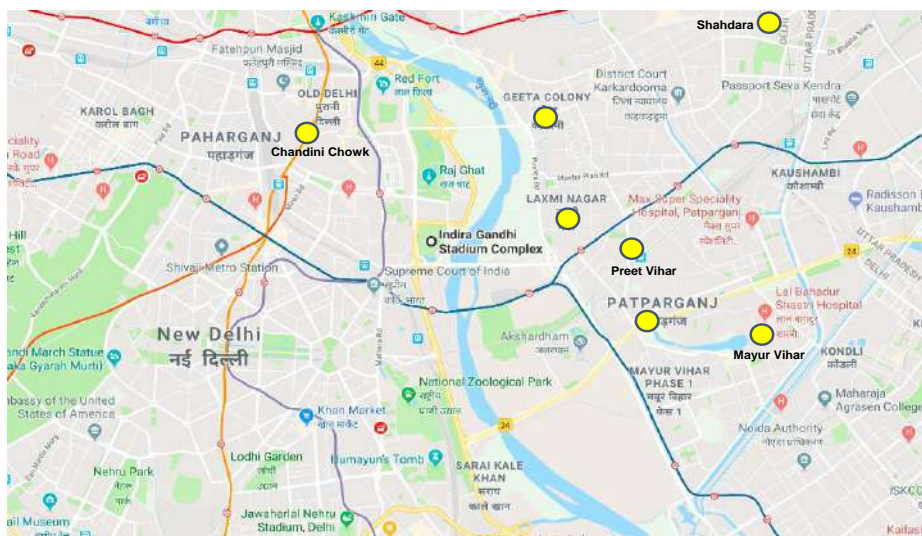
Potential user category in sport infrastructure	Membership options at IGSC	CWG sports complex	Yamuna sports complex
Casual membership (for a day)	No	Yes	Yes
Corporate	NA	NA	Yes
Short term membership (monthly/ quarterly basis)	Yes	Yes	Yes
Long term membership (1/ 3/ 5 years)	Only 1 year	Yes	Yes
Guests	No	Yes	Yes
No. of Academies/ Camps	6	8	20

2.2 RETAIL MARKET IN VICINITY

The commercial activities in the vicinity of IGS Complex includes the CBD (Connaught Place), shopping centres, neighbourhood centres and community centres. Mixed land use dominates the development

pattern here. The following figure provides information on commercial centres operating in the vicinity of the IGS Complex.

Figure 7: Key Commercial Spaces in the vicinity of the IGS Complex



A catchment area assessment was conducted to determine the commercial retail rates of market areas in the vicinity of IGS Complex. This would help reflect the lease potential of any proposed commercial development. Annexure A4 gives details of the identified market spaces.

Table 6: Commercial retail rates of catchment area

Type of property	Locality	Distance from IGS Complex (in Km)	Per sq. ft. price per month	Area (Sq. ft.)	INR/ Sq.ft.
Commercial shop	Preet Vihar	6	167	300	50,000
Commercial shop	Mayur vihar	8	140	250	35,000
Commercial shop	Patparganj	6	118	220	26,000
Commercial shop	Laxmi Nagar	5	116	275	32,000
Commercial shop	Nirman Vihar	6	100	250	25,000
Commercial shop	Geeta Colony	7	86	210	18,000
Commercial shop	Shahdra	14	69	360	25,000
Commercial shop	Laxmi Nagar	5	116	275	32,000

Based on the catchment area assessment, the below table provides the commercial office space rates of market places which are in close vicinity of IGS Complex.

Table 7: Commercial office space rates of catchment area

Type of property	Locality	Distance from IGS Complex (in Km)	Per sq. ft. price per month	Area (Sq. ft.)	INR/ Sq.ft.
Office Space	Nirman Vihar	6	67	1,500	1,00,000
Office Space	Mayur vihar	8	56	810	45,000
Office Space	Preet Vihar	6	50	1,500	75,000
Office Space	Shahdra	14	50	1,400	70,000
Office Space	Laxmi Nagar	5	44	800	35,000
Office Space	Geeta Colony	7	33	1,800	60,000
Office Space	Patparganj	6	23	2,000	45,000

2.3 HOSPITALITY IN VICINITY

IGS Complex falls in the proximity of Lutyen’s Delhi that is known for its hospitality to foreigners in form of various Five Stars Hotels namely:

Table 8: Hospitality in vicinity

Name of facility	Locality	Average Tariff per night (INR)
The Park	Connaught Place	6999
The Ashok	Chanakyapuri	4999
The Lalit	Connaught Place	8089
Taj Palace	Sardar Patel Marg	8500
The Surya Hotel	Nehru Place	5309
The Claridges	APJ Abdul Kalam Road	7350
ITC Maurya	Dhaura Kuan	8500
Hyatt Regency	RK Puram	8500
The Leela Palace	Chanakyapuri	13500
Taj Mahal Hotel	Khan Market	13500
The Imperial	Connaught Place	10000
The Lodhi	Lodhi garden	8839
The Oberoi	India Gate	12500

2.4 RECREATIONAL GAMES IN VICINITY

JLN falls in the proximity of other recreational activities in the vicinity. Below are the details as under:

Table 9: Recreational games center in vicinity

Name	Area	Facilities
Smaash	Vasant Kunj	Laser blast, Cricket, Twilight Bowling, Super keeper, Finger Coaster, Walk the plank, 9D Extreme Interactive Theatre, Smart Arcade, Jurassic Escape
Essex Farms	Hauz Khas	Bowling, Air Hockey, Pool, Bumpy cars, Redemption games, Virtual Reality Game
Delhi Rock	Greater Kailash	Rock climbing
Lock n Load	Subash Nagar	Play areas, Adventure, Paintball, Go-karting
Blu O	Gurgaon	Bowling, Video Games, Foosball, Snooker, Spa, Play station lounge, Platinum Lounge, Karaoke Lounge
32 nd Milestone	Gurgaon	Bunjee Jumping, Bull Ride, Net Cricket, Paintball, Anki Drive, Private Theatre, Video Game center, Go-karting, Bowling, Rifle Shooting

The background of the image is a blurred photograph of a desk. In the foreground, several rolled-up documents or blueprints are visible, some in white sleeves and others in brown paper. A red pen is lying on the desk in the upper right corner. The overall scene suggests a professional or administrative setting.

DEVELOPMENT OPTIONS

3 DEVELOPMENT CONCEPT

The development concept of the IGS Complex has been derived by keeping the objective of introducing 'Sports into the DNA of the nation' as the central context. The complex is located towards east Delhi near the river Yamuna. This sports hub is envisaged to offer state of the art training facilities come and play schemes, sports practice, recreational sports and competition based ecosystem to catalyse the development of sports at multiple levels. There aren't many sports or club related facilities in this part of the city. This includes fitness as a way of living, accessibility to the best of facilities to all strata of the society, recreational sports to encourage the spirit of sportsmanship and competition across the board, training national and international level sports players as well as creating an infrastructure capable of hosting international sporting events with supporting allied facilities. The same was arrived at through the following steps:

3.1 SPORTS EXCELLENCE

The stadium complex was analysed, studying the existing infrastructure and the applicable development regulations to optimize the potential of the facility with respect to up-gradation and addition of new facilities. Following are the key points undertaken in the assessment:

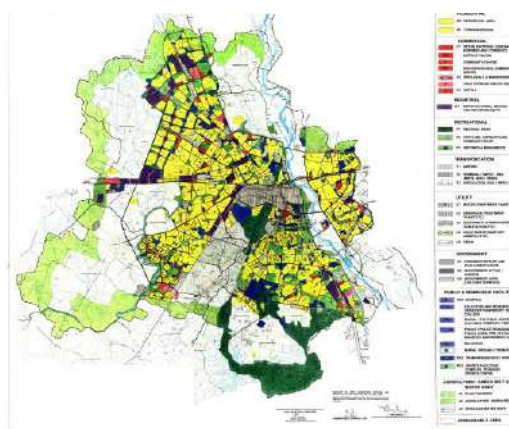
- Studying & analysing the planning norms and policies applicable to the site.
- Analysing the existing infrastructure of the stadium complex.
- Analysing the components and potential for up-gradation /optimizing of the existing infrastructure to enhance sports facilities/ disciplines under come and play scheme as well as international level training facility.
- Benchmarking and analysing best practice sports stadiums/ complexes (hosting major international competitions) with allied facilities.

3.2 PLANNING NORMS

The stadium complex falls under Zone O of the Zonal Development plan under Master plan Development 2021. It is categorized as PS-3 under Public Semi- Public Zone which includes Sports Facilities / complex/ Stadium/ Sports Centre. The category of Sports Facilities was updated from Recreational Category to the Public- Semi Public category to ensure building of stadiums and facilities capable of hosting International / Mega Sporting Events like the Common Wealth Games. With an FAR (Floor Area Ratio) of 40 applicable under this category, ground coverage of 20 % is allowed as per the existing bye laws.

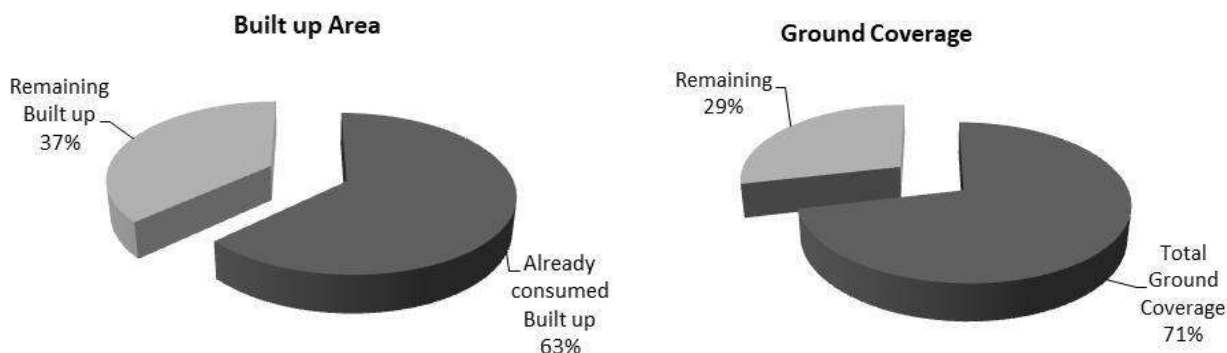
Figure 8: Master Plan for Delhi 2021

Development Control Normsfor IGS Stadium	
Name	Description
Zonal Development Plan	O
Use Zone Designated	Public - Semi Public
Sub Category	PS- 3
	Sports Facilities / Complex / Stadium
Ground Coverage	20 % (including Amenities)
FAR	0.4
ECS	2 ECS / 100 Sq M



As defined in figure below, the total area demarcated as the stadium complex is 110 Acres or 44.52 Hectares. With a built up of 40 available, 60 % of the applicable FAR has already been consumed in

making various sports facilities. Similarly, nearly 70 % of the total applicable Ground coverage is consumed in the existing facilities, not including open to air field- of- play and other facilities. This gives a total of 71,868 Sq.M of remaining Built up and 7.19 Acres of remaining ground coverage to build additional facilities.



Only 29 % Utilizable ground coverage remaining as per existing norms

Table 10: IGS Complex Area statement & ground coverage

Indira Gandhi Stadium - Area Table			
Description	Area (Sq M)	Acre	Hectare
Total Site Area	445,170	110.00	44.52
Total Built up area allowed	178,068		
FAR	40		
Total Ground Coverage (20 % allowed)	89,034	22.00	8.90
Indira Gandhi Stadium - Built up Area			
S.No	Existing Functions	Total Built up (Sq M)	Ground Coverage (SqM)
1	Main Stadium (Gymnastics)	49500	18800
2	Velodrome Stadium	23000	16000
3	Wrestling Stadium	23000	12000
4	Hostels	10700	3500
	Total	106200	50300
Balance Areas			
Description	Area (Sq M)	Acre	Hectare
Remaining Built up Area	71,868	17.76	7.19
Remaining Ground Coverage	38,734	9.57	3.87
Allowable Commercial built up (5%)	8,903		

As per MPD -2021 under PS-3 following activities are permitted presently, including 5% sports related commercial, multi-use stadium for exhibitions, trade shows, banquets, multiple sports related events, extreme sports, academies, sports medical centre, water slides, wave pools, hydrotherapy, Akhara, residential accommodation like hostels, ward residences etc. keeping the usage as sports relevant.

Table 11: Activities permitted under divisional sports infrastructure

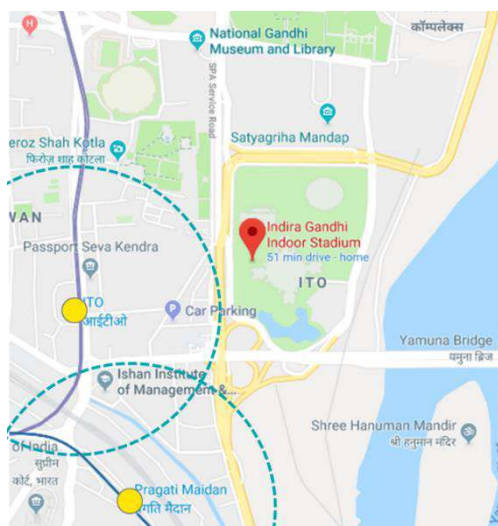
Activities Permitted Under Divisional Sports Infrastructure	
S.No	Description
1	Sports Related Commercial @ 5 %
2	Multi Use Stadium
3	Aquatic Centre
4	Outdoor Sports / Extreme Sports
5	Sports Academy
6	Sports Medicine
7	Residential Accomodation
8	Playground

3.3 TRANSIT ORIENTED DEVELOPMENT OR TOD POLICY

As per the National Transit oriented development policy, TOD needs to integrate land use and transport planning and aims to develop planned sustainable urban growth centres, having walkable and liveable communes with high density mixed land-use. Citizens have access to open green and public spaces and at the same time transit facilities are efficiently utilized.

It focuses on creation of high density mixed land use development in the influence zone of transit stations, i.e. within the walking distance of (500-800 m) transit station or along the corridor in case the station spacing is about 1km and advocates pedestrian trips to access various facilities such as shopping, entertainment and work. Literature study for ToD is attached as Annexure A.5.

Figure 9: IGS Stadium Complex–Metro station distance



In case of Indira Gandhi Stadium Complex, located at Indraprastha Estate, is situated close to the bank of Yamuna and is connected to Trans Yamuna area in the east though Vikas Marg (Yamuna Bridge). The facility is connected by National Highway 44 (Srinagar – Kanyakumari Highway) from North and West with entry access through Sachivalaya road in the East. IGS Complex is situated on the intersection of NH-44 and Vikas Marg, giving ample connectivity options for the users coming from adjoining region of NCR, Haryana and Uttar Pradesh respectively.

Inderprastha Metro Station (Blue Line) and ITO Metro Station (Violet Line) of Delhi Metro are the nearest metro stations connecting to the stadium, located at a distance of nearly 1.6 km and 2.5 km from the facility, respectively. The National TOD policy focuses on creating high density mixed land use development of areas falling in the influence zone of transit stations as elaborated below in Table below.

In case of IGS Complex, the nearest metro station, i.e. ITO metro station and Pragati Maidan metro station. Since these stations are beyond 1 km radius of nearest transit facility, therefore, the TOD norm of Intense & standard TOD zone shall not apply.

The presence of ASI protected Firoz Shah Kotla monument within the 100 + 200 M buffer zone greatly affects the applicability of TOD policies on to the complex. The Yamuna River development Authority also restricts construction in the area as it is low lying and prone to flooding. The 2 permissions along with the distance from the metro station make the applicability of 40 FAR more feasible.

Table 12: TOD Policy

Transit oriented Zones of Influence		
Zone 1 : Intense Zone	Zone 2: Standard TOD Zone	Zone 3: TOD Transition Zone
<ul style="list-style-type: none"> • 300 M influence zone of all MRTS Stations 	800m* (10-min walking) influence zone of all MRTS Stations.	<ul style="list-style-type: none"> • 2000m** (10-minute cycling distance) influence zone of all MRTS Stations. • 300 M influence zone of BRT corridors.
<ul style="list-style-type: none"> • 800m* (10-min walking) influence zone of Regional Interchange Station (i.e. Rail -MRTS, or two MRTS lines.) 		<ul style="list-style-type: none"> • Zones within Intense or Standard TOD Zones which are not permitted for redevelopment but need enhancements in public realm and network connectivity.

3.4 POTENTIAL FOR UP-GRADATION/ OPTIMIZING OF THE EXISTING INFRASTRUCTURE

Apart from the existing sports facilities scattered across the 110 Acre campus, the campus has a holistic fitness cum sports centre for training and come and play basis. The presence of the best of the sports facilities & Dronacharya & Arjuna Award winning coaches & assistant coaches on the campus make it a potential attraction from players across the region who intends to take up sports professionally. They train for the same on the campus presently. The up-gradation costs have been given below.

Table 13: IGS Complex Existing Sports Infrastructure

IGS Existing Sports Infrastructure		
S.No	Description	Discipline
Existing Infrastructure		
1	Main Indoor Stadium	Gymnastics Table Tennis Badminton
2	Velodrome Stadium	Cyclist
3	Wrestling Stadium	Wrestling Wushu Seoak Takraw
4	Others	Gym (only for Players) Girls Hostel

Table 14: IGS Complex Product Mix at 40 FAR

Product Mix at 40 FAR				
S.No	Programme	Built up (SqM)	Percentage	Cost (Cr)
1	Existing Infrastructure Sports	46,800.00	65%	34
2	Sports Club with 20 rooms	9,328.00	13%	27
3	Retail (Government / semi government Office + Food joints)	8,400.00	11.69%	20
4	3 Star Hotel	7,340.00	10%	55
	Total	71,868.00	100%	136

3.5 ANALYSING BEST PRACTICE SPORTS STADIUMS/ COMPLEXES

Sports stadiums and infrastructure remains the pride of the nation and become the much needed symbol of constructive young India. These stadiums not only provide infrastructure for potential international and national sports events but are also centres of training and excellence in sports. Already with the training programme and come and play schemes, most of the Sports India Stadiums extensively support sports in the country. Being the kind of large infrastructure needed to host international events, maintaining these stadiums/ venues after the events are over or in between events remains a challenge across the world. The Consultant has studied best practices in stadiums via-a –vis Olympic & world cup requirements to host a match.

For Olympic venues, Cycling Velodrome & Wrestling stadiums have been studied. World cup venues for Indoor stadiums, the redevelopment plans after the events, the viability plans for maintaining sports with an added product mix and stadiums fallen to disrepair & disuse due to lack of foresight across many venues have all been studied to understand the life cycle of a stadium, the international match holding capability and the much needed sustainability of the project via supporting functions. A list of major sports international events which could be held in the stadium have also been identified along with their requirements. Details on best practices sports stadium with allied facilities and support infrastructure as enclosed in Annexure A5.

3.6 CREATING A VIABLE SPORTS ECO-SYSTEM

- Benchmarking and analyzing best practice in sports stadiums/complexes with commercially viable programs and components.
- Identifying & utilizing the unused spaces within the stadium complex for Sports related retail, commercial and relevant functions to ensure footfall and generate revenues.
- Analyzing and identifying the sports retail, commercial, quasi-commercial sports mix viability applicable to the stadium.

The existing stadiums namely the Indoor, Velodrome and Wrestling Stadium are used for sports national or international events. Thus no area under the stands or within the sports stadiums has been used for any commercial or allied sports related commercial activities. Vacant land parcels have been identified and programme created within the applicable and balance FAR.

Three land parcels have been identified on the complex namely A, B & C with a potential land area of 55,427 Sq.M only. The same have been identified by studying the movement pattern needed around the stadiums so as not to hinder security, passage, functions or cause inconvenience to the players & athletes.

Table 15: Land Parcels Available

Indira Gandhi Stadium- Land Parcels Available on site	
Stadium	Total Ground Coverage (SqM)
Land Parcel A	41600
A1	13455
A1	28145
Land Parcel B	7960
Land Parcel C	5867
Total	55427

A consolidated programme has been identified within these land parcels and listed below based as the proposed infrastructure need of the stadium Sports club model, hotels and office complex has been added as facilities to draw in maximum footfall to enable optimal utilization of space and generate revenues.

Table 16: IGS Complex Proposed Infrastructure

IGI Proposed Infrastructure			
Discipline	Area (SqM)		
Sports Activities: Outdoor			
Basketball court (2)			
Swimming Pool (Olympic Size)	650		
Sports Club: for Amateurs	9328		
Retail (office + Cafes)	8,400		
Description	Area/unit	No.	Area (SqM)
Office			
Office Small	200	10	2,000
Office Medium	500	6	3,000
Office Large	1000	2	2,000
Total Office Area			7,000
Café/ Food court			
Food Stalls	100	5	500
Café	75	9	675
Kiosk	60	4	240
Total Food Area			1,415
Total Area for retail (Minimum)			8,400
3 Star/ Condominium Hotel			7,340

3.7 ANALYSING NON-SPORTS COMPONENT

The Non-Sports part of the programme has been designed as a sports club cum commercial to ensure a sports centric ambience, spirit and fitness as a lifestyle. To ensure that the IGS Complex gets in a wider pool of players, come and play members, coaches, athletes are relevant. Also looking at the area & requirement, office complex has also been provided.

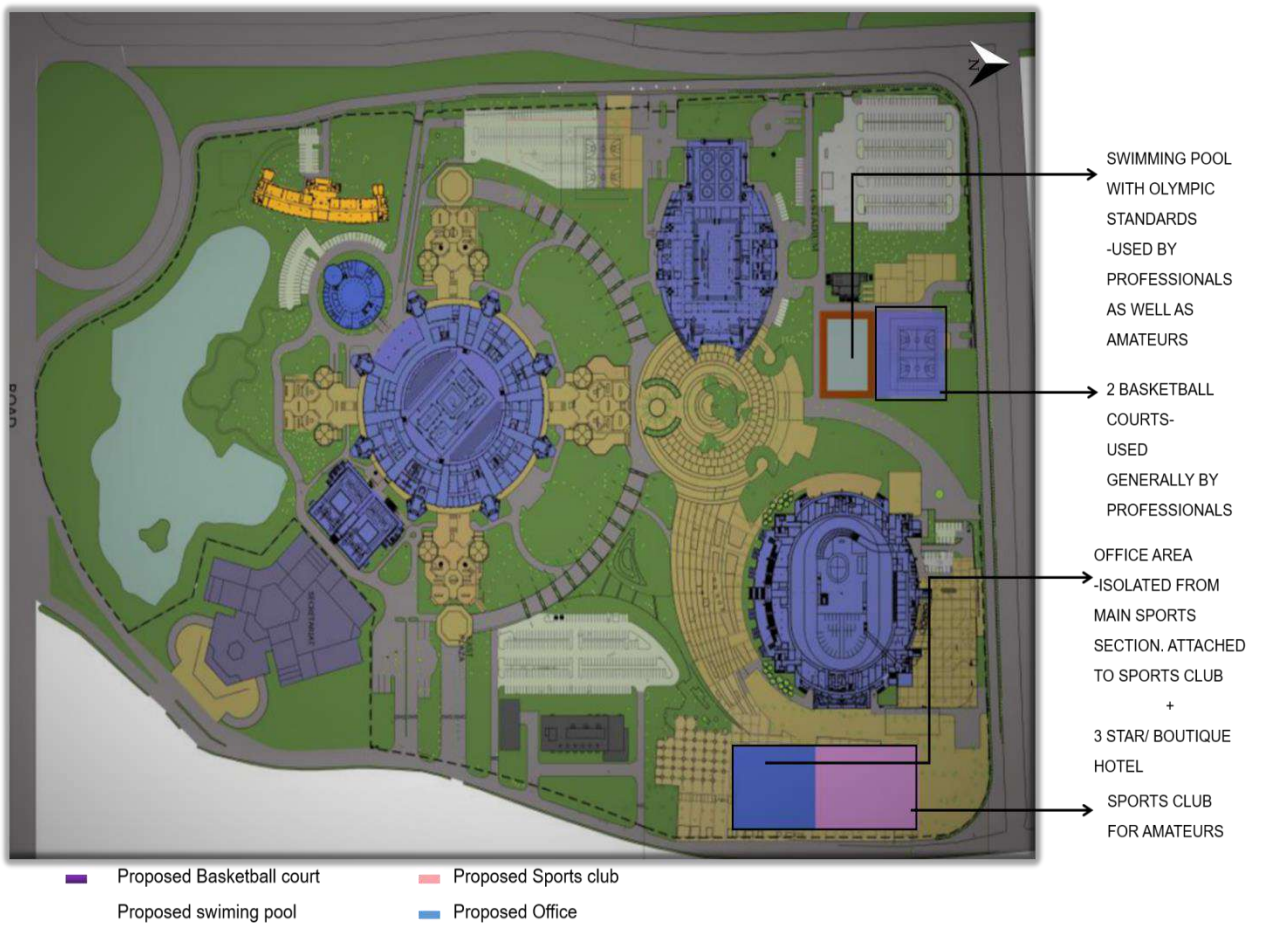
3.8 FINAL PRODUCT MIX & MASTER PLAN

Sports Club with Spa, Gymnasium, Rooms facilities etc have been provided. Government, Semi – Government offices, Retail, food joint and a 3 star / Boutique hotel have been added to the programme. Due to the presence of ASI protected monument and Yamuna River bank in the vicinity of the complex, the product mix of 40 which is applicable has been detailed.

Table 17: IGS Complex Proposed Infrastructure

Product Mix at 40 FAR				
S.No	Programme	Built up (Sq M)	Percentage	Cost (Cr)
1	Existing Infrastructure Sports	46,800.00	65%	34
2	Sports Club with 20 rooms	9,328.00	13%	27
3	Retail (Government / semi government Office + Food joints)	8,400.00	11.69%	20
4	3 Star Hotel	7,340.00	10%	55
	Total	71,868.00	100%	136

Figure 10: IGS Complex Master Plan Option



3.8.1 Sports Club cum Hotel

To be designed & planned as a support activity to the Sports Club or as an independent activity could be left to the discretion of the developer. The prime purpose of introducing Sports retail/ food court within the entire planning matrix is to charge and activate the sporting areas during the non-sports event days which tend to go passive otherwise. Also a revenue generation and support to the maintenance of the sports infrastructure could be looked at, based on the financial feasibility of the project. Chess club, Snooker, pool, Squash courts, Tennis etc. could easily become a part of the program and lead to indirect increase of foot falls. As this part of Delhi does not have too many hotel or club facilities, the programme for the sports club has been designed with beauty salon, gymnasium, spa facilities. 20 rooms have also been provided. Due to the proximity of many government offices in the premises, it is expected that these rooms will get good occupancy and tariff throughout the year.

Table 18: Sports club cum hotel

Sports Club cum Hotel				
S.NO.	Functions	Area / Unit (sqm)	No of Units	Total Area (sqm)
1	Reception Foyer	150	1	150
2	Administration back office	100	1	100
3	Convinio	200	1	200
4	Retail / Proshop (4 X 500)	50	4	200
5	Billiards's/ Snooker Room	100	2	200
6	Library	100	1	100
7	Bridge /chess Room	100	1	100
8	Bar & Lounge	250	1	250
9	Restaurant with Kitchen	350	1	350
10	Pastry/ coffee shop	150	1	150
11	Kid room extend playpen	50	1	50
12	Gaming alley	300	1	300
13	First Aid room	25	1	25
14	Beauty Salon	250	1	250
15	Gymnasium	750	1	750
16	Spa	250	1	250
17	Table Tennis	100	2	200
18	Badminton	200	2	400
19	Squash	100	4	400
20	Yoga centre/ Aerobics	200	2	400
21	Mini Theatre	150	1	150
22	Banquet Hall Small	250	2	500
23	Banquet Hall Medium	500	1	500
24	Conference halls	50	4	200
25	Toilets	75	4	300
26	Transit Rooms	35	20	700
	Total Built-up area			7175
	Super Built-up area			9328

3.8.2 Swimming pool

An Olympic size pool which can be used by professional athletes, come & play scheme as well as club users on time sharing basis. With training facilities & coaches available, it can be a very big draw for adults and children alike.

3.8.3 Retail, Malls, Restaurant/ Sports Retail/ Food Court

The Retail zone would be designed as per the commercial viability of the project and anticipating the recreational and entertainment need of the residents, the zone could also include a shopping plaza/ arcade, spa, salon, health and fitness equipment stores , and other recreation facilities which are sports centric or relevant.

The retail sector could also could have a supermarket or hyper-mart, large grocery shops, shops selling sports branded goods, consumer durable outlets, postal services, retail banks, fine dining restaurants or popular food chains, Sports club, clinics, medical stores etc.

3.8.4 Government offices/ Semi government offices

Being centrally located, there already exist many government / semi government offices in and around IGS Complex. Many government and semi government departments have been the area for decades and there is demand for more. Similar Government department are expected to occupy the office sector with substantial revenue generation.

3.8.5 Multi-level car park

A Multi-level car park is a successful business model and due to the presence of offices, a huge requirement as well. The same will also be useful during public or sports related events in the complex.

3.8.6 Hotel

The stadium complex is envisaged as a hub of international sports events and also sports training. Apart from local sports players and the elite athletes already training and staying in sports hostels, we anticipate sports conferences and conventions taking place here apart from Sports performance and management training. Players, coaches, sports officials, sports & fitness enthusiasts from across the country and world are expected to travel here for recreational, matches and training purposes. To accommodate the same, the component of Hotels, Hostels and Service apartments as components add more to the program than a conventional housing set up. A mix of 3, 4 star or boutique hotel is proposed.

3.8.7 Support infrastructure

Apart from the allied infrastructure such as parking ECS accommodation, waste and water management, this section lists out the other support infrastructure for the sports component.

To start with the road sections; the main road leading up to the stadium complex and the parking should cater to the influx of spectators in their numbers calculated individually as vehicular and pedestrians. For this the road sections should be in adherence to the National building codes and the local byelaws, should be appropriately marked with signage and markings that should be clearly visible in the night and day. A clear and appropriate designing of the wide pavements meant to cater to the large number of spectators during the sporting events is a must should be adhered to. A clear division of service lines such as power, storm water and sewer should be planned as per NBC and the local byelaws with appropriate provisions for easy maintenance time to time.

Apart from the above, easy access for old and handicapped, benches, dustbins, ticket vending shelters should be equally and appropriately distributed for a hassle free and smooth operations during any large sporting event within the stadium complex.

The entire development is interspersed with large tracts of green spaces distinguished as green belts, visual greens, and recreational greens. The zone is planned with amenities and utilities designed to conform to internationally accepted standards, integrating latest technology, and addressing environmental concerns to ensure quality sports facilities and quality of life.

3.9 REGULATORY COMPLIANCES

This section highlights the regulatory compliances required for the re-development of IGS Complex. This includes details regarding the concerned regulatory bodies as well as the critical approvals that need to be obtained for the successful implementation of the recommended project. The stadium is located close to monuments of national importance (Ashoka Pillar, Raj Ghat) and Yamuna river bed. Therefore, before undertaking the transaction phase, the Authority would be required to undertake statutory approvals from Archaeological Survey of India and Yamuna River Development Authority which may result in implementation delays.

Table 19: Permissions required for clearances.

IGI Stakeholders & Permissions
North Delhi Municipal Corporation
South Delhi Municipal Corporation
Yamuna River Development Authority
National Monument Authority (A.S.I).
Delhi Urban Arts Commission
Sports Authority of India
Delhi Fire Services
Delhi Airport Authority Of India
Delhi Jal Board.
DISCOMS.
Department Of Forest.
DPCC.

FINANCIAL ANALYSIS



4 FINANCIAL ANALYSIS

4.1 PROJECT STRUCTURE

A wide spectrum of models have emerged in development and management of infrastructure facilities which enable private sector participation through guided risk sharing mechanism in providing efficient level of services. As per World Bank report on models in PPP, the project structuring vary from short-term simple management contracts (with or without investment requirements), long-term and very complex BOT form, to divestiture. These models vary mainly by:

- Ownership of capital assets
- Responsibilities for investment
- Assumption of risk and
- Duration of contract

PPPs can help the government fast track infrastructure development and therefore it is imperative to create favourable policies and guidelines in order to attract private investments for a sustainable development goal. PPPs can be explored for creating infrastructure through Built – Operate Transfer (BOT) models by contracting construction companies specializing in building multi-purpose centers and allowing professional private sector entities to manage and control the existing sports infrastructure with the objective of building commercial models and converting the same into revenue centers. Higher asset utilization and revenue generation could in turn incentivize sports infrastructure creation.

Various states in India such as Gujarat and Rajasthan, have delineated the role of PPP in their sports policy while other states such as Madhya Pradesh have already started development of sports cities via the PPP mode. The sports policy of Haryana, a leading sporting state, defines in depth the need for development of sports facilities when developing new commercial/ residential spaces. Keeping in mind the need of developing places for development and promotion of sports. Such provisions can have a long term impact on improving the sports culture in every state. Timely planning and development of sports infrastructure seems to be the current problem. PPP as an enabler in sports infrastructure has been further discussed in Annexure A.6.

4.2 PROJECT DEVELOPMENT CONCEPT

Sustainable Sports Ecosystem – Only Sports, Nothing but Sports

The development concept for this project envisages that the selected PPP concessionaire shall be given rights wherein the responsibility of developing and commercialization of the project facility shall be undertaken. The overall objective is to provide and improve the quality of service experienced by users with potential revenue based developments at IGS Complex.

The project structure envisages participation of private developer on DBFOT basis where the private operator would have the flexibility to design, construct additional sports facility and commercialization of the project commercial space.

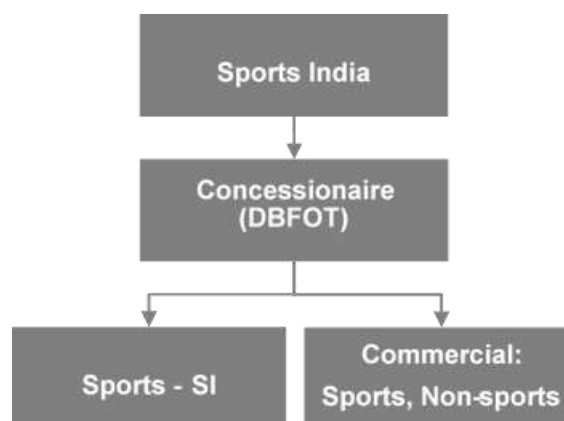
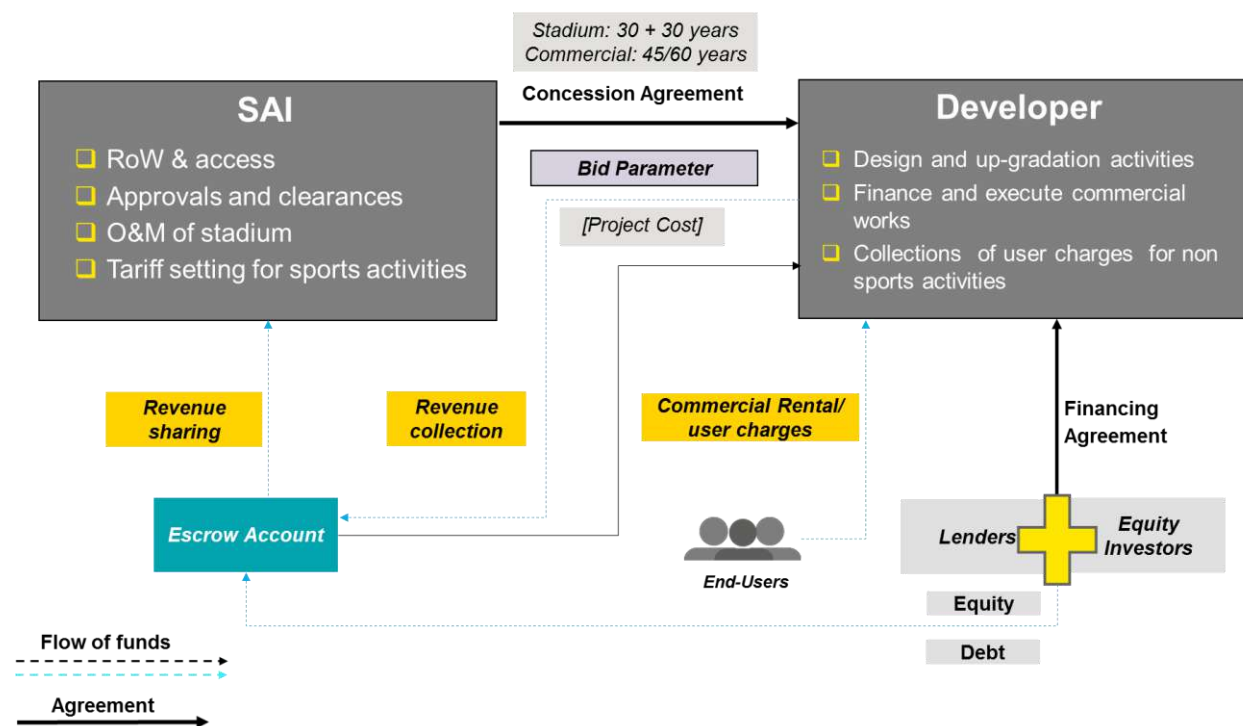


Figure 11: DBFOT Model



Given the current investment climate in India, the project structure has been widely used across various infrastructure sector such as roads, power & transmission and airports wherein it provides the developer the opportunity by entering into financing agreements with lenders and equity investors in the form of support during the construction and operation phases.

The supporting revenue returns realized from commercial development shall be well accepted by developers/Investors. Hence it is recommended to adopt a similar project structure for IGS Complex. The consultant further analysed best international practices for evaluating different project structures followed under PPP to implement and manage such infrastructure facilities. The best international practices are covered in Annexure A.7.

BOX-4: Objectives of the Proposed Model

- To upgrade current sports facilities and operate and maintain the facilities for 30 years as per specified performance standards.
- Further additionally develop additional sporting facilities and operate and maintain these facilities for 30 years
- Develop, operate and maintain commercial areas as per applicable laws for [45 (30+15) - 60 (30+30) yrs.].
- Sports SI facilities to be regulated by SI but operated and maintained by private sector

4.3 RISK ALLOCATION

Contractual structure are influenced by a number of factors. If the fundamentals of a PPP transaction are well thought through, particularly in relation to risk allocation, it is possible to finance and execute such transactions that represent value despite current challenges in funding and execution.

Cost and time overruns will largely be driven by the type of contract used and by the experience and competency of the contractor. It is important that the contractual structure protects the public sector from the financial consequence of delays in the delivery of proposed infrastructure. The various risks associated

with the different phases of the project life cycle and the mitigation strategies have been tabulated in table 32 below.

Table 20: Risk matrix

Risk description	Risk mitigation
Project Development Phase	
Delay in land acquisition	The land parcels identified for commercial development in IGS Complex to be provided by authority to the concessionaire as per agreed timelines.
Over runs 1. Cost 2. Time	1. Fixed cost contract with contractor with adequate predefined penalties 2. Fixed time contract with adequate pre-defined penalties The risk lies with the Concessionaire
Delays in project development	<ul style="list-style-type: none"> ▶ The Project contracts should provide for significant penalties for such delay ▶ SI may assist the developer in obtaining necessary consents and clearances from governmental agencies.
Project Construction Phase	
Funding risk	<ul style="list-style-type: none"> ▶ Depending on the project development option, funding risk has to be borne by the private developer. With SI providing some form of support, this risk is mitigated to a very large extent.
Project completion risk	<ul style="list-style-type: none"> ▶ Concession Agreement should address the issues related to Concessionaire's default in this case. ▶ Strict project monitoring by the Authority/Independent Consultant is required. ▶ Contracts for mandatory works may be structured as a fixed-price and fixed-schedule contract, with stiff liquidated damages for non-compliance. Performance guarantees may also be stipulated. ▶ Insurance package involving Contractors All Risk, and Third Party Liability
Latent defect risk	<ul style="list-style-type: none"> ▶ The possibility of loss or damage arising from latent defects in the Facilities included in the Project Assets is also a big risk. ▶ Wherever possible, the design and construction of the facilities required for a Project must be performed or procured by the Concessionaire.
Design risk	<p>The possibility that the Concessionaire's designs may not achieve the required output specifications.</p> <ul style="list-style-type: none"> ▶ Output specifications to be detailed out in Concession Agreement. ▶ Design warranty. ▶ Patent and latent defect liability. ▶ Consultation with and review by Authority (but review must not lead to input specifications by Institution). ▶ Independent Engineer appointment to resolve disputes.
Market, demand or volume risk	The possibility that the demand for commercial services generated by the Project may be less than projected. Concessionaire needs to do his own due diligence for the same and the risk will be borne by itself.
Project Operation Phase	
Interest rate risk	These are factors affecting the availability and cost of funds. To mitigate this risk, hedging instruments or fixed rate loans to be used.
Inflation risk	<ul style="list-style-type: none"> ▶ The possibility that the actual inflation rate will exceed the projected inflation rate. ▶ Risk to be borne by the Concessionaire.
Residual value risk	<ul style="list-style-type: none"> ▶ The risk that the Project Assets at termination or expiry of the Agreement will not be in the prescribed condition for hand back to the Authority. ▶ Obligation on Concessionaire to maintain and repair/upgrade the IGS Complex facilities and such transfer parameters to be specified in the Concession Agreement. ▶ Audit towards the end of Project Term.

4.4 KEY STAKEHOLDERS

As mentioned earlier, the proposed project structure clearly defines relationships between key project stakeholders. The key stakeholders relevant to the project will be:

- Sports India: Implementing authority, currently possess the project land
- Private sector/developer: to be selected for the project development through competitive bidding process

- Project SPV: company formed for development and commercialization of the project formed by single entity or consortium (selected private partner)

For the purpose of this analysis, it is assumed that the selected private partner (and therefore the project SPV) will act as a main developer, i.e. the SPV will engage in development of the entire facility i.e. sports facility and commercial establishments. Since a PPP project always entails that the private entity is best suited to undertake the project; hereafter mentioned are the roles and responsibilities between SI and the developer.

Table 21: Responsibility matrix

No.	Project Components	SI	Private Developer
1	Provide land ownership details and land free of all encumbrances	√	
2	Definition of the bidding procedure and bidding criteria	√	
3	Approve the overall design of the facility	√	
4	Monitor and reporting mechanism for evaluating performance of concessionaire	√	
4	Collection of revenues		√
5	Bearing the construction and equipment cost		√
6	Operation and maintenance of the entire facility		√
7	Payment of Annual Revenue Share to SI		√

4.5 METHOD OF FINANCIAL ANALYSIS

The financial analysis has been carried out by most widely used Discounted Cash Flow (DCF) method on the above proposed project structure for assessing the value for money analysis. DCF is a valuation method used to estimate the attractiveness of an investment opportunity and used future free cash flow projections and discounts them. The analysis uses a required annual rate, to arrive at present value estimates. A present value estimate is then used to evaluate the potential for investment. If the value arrived at through DCF analysis is higher than the current cost of the investment, the opportunity may be a good one.

Accordingly, financial analysis has been carried out to arrive at range of realizable premium after factoring in the project cost and other applicable terms of the project. The principle followed in assessing the premium/ amount to be realized to SI is how much selected developer would be required from the project after meeting all capital and operating expenses including debt service cost and after retaining an equity return of approximately 18% from the project.

The financial analysis has been undertaken for proposed development plan options of 40 FAR and 400 FAR as discussed in Section 3: Development options.

4.6 AREA STATEMENT

In order to suggest a suitable product mix, it has been kept in mind that the revenue potential for the development should be maximum. On the basis of Master Plan for Delhi 2021, the following area statement has been considered for analysis.

Table 22: IGS Complex Area Statement & Ground Coverage

Indira Gandhi Stadium - Area Table			
Description	Area (Sq M)	Acre	Hectare
Total Site Area	445,170	110.00	44.52
Total Built up area allowed	178,068		

FAR	40		
Total Ground Coverage (20 % allowed)	89,034	22.00	8.90
Indira Gandhi Stadium - Built up Area			
S.No	Existing Functions	Total Built up (Sq M)	Ground Coverage (SqM)
1	Main Stadium (Gymnastics)	49500	18800
2	Velodrome Stadium	23000	16000
3	Wrestling Stadium	23000	12000
4	Hostels	10700	3500
	Total	106200	50300
Balance Areas			
Description	Area (Sq M)	Acre	Hectare
Remaining Built up Area	71,868	17.76	7.19
Remaining Ground Coverage	38,734	9.57	3.87
Allowable Commercial built up (5%)	8,903		

4.7 KEY COST ASSUMPTIONS

The financial analysis is based on set of assumptions and inputs from our analysis. These set of assumptions are based on the secondary researches, industry benchmarks and EY's experience of sector knowledge. These sets of assumptions & inputs are given below:

4.7.1 Concession period

The concession period considered is 45 years for commercial development and 30 years for stadium's operation and maintenance which is inclusive of 24 months of construction period.

4.7.2 Cost inputs

The construction cost has been assumed on the basis of discussion and inputs as per the prevailing market condition. Annual escalation rate is based on last ten years long term WPI index as published by GOI.

The below table summarizes cost estimates at 40 FAR.

Table 23: Cost inputs at 40 FAR

Product Mix at 40 FAR and Cost Inputs				
S.No	Programme	Built up (SqM)	Percentage	Cost (Rs.Cr)
1	Existing Infrastructure Sports	46,800.00	65%	34
2	Sports Club with 20 rooms	9,328.00	13%	27
3	Retail (Government / semi government Office + Food joints)	8,400.00	11.69%	20
4	3 Star Hotel	7,340.00	10%	55
	Total	71,868.00	100%	136

4.7.3 Project Phasing

The project construction phasing schedule is given below:

Table 24: Project phasing

No.	Phasing (in Years)	2020	2021	2022	2023	2024
1	Phasing of area leased	0%	0%	0%	50%	50%
2	Construction	50%	50%	0%	0%	0%
3	Other areas	0%	60%	40%	0%	0%
4	Phasing of revenue from membership	0%	0%	30%	30%	40%

4.7.4 Financial Cost Assumptions

Major financing assumptions including debt-equity ratio, cost of debt and equity etc. are considered on the basis of other infrastructure development sectors like roads, ports, railways as well as inputs from financial institutions such World Bank during consultation for financial appraisal of similar projects.

Table 25: Financial cost assumptions

Terms of Debt		
1	Interest Rate (per annum)	10%
2	Principal Moratorium (yrs.)	2
3	Repayment period	10
Equity		
1	Cost of Equity	18%
2	Debt to Equity Ratio	65:35
3	Weighted Average Cost of Capital (WACC)	10.5%
Taxation		
1	Income Tax Rate	34.90%
2	MAT Rate	21.30%
3	Carry forward of losses (yrs.)	8
4	Carry forward of MAT (yrs.)	15

4.7.5 Operation and Maintenance Cost Assumptions

Considering long term concession period, it has been assumed that developer would be able to enter into arrangement with end users on long term lease/ sale basis of retail asset class. Therefore Operation & Maintenance (O&M) expenses have not been considered for the same. Major components of O&M cost estimates considering first year of operations are illustrated in the table below:

Table 26: Operation and maintenance cost assumptions⁶

No.	Assumptions	Remarks
1	O&M for stadium operations	14.2cr
2	Marketing and brokerage	5% of commercial lease revenue
3	Fixed O&M expenses for sports club and commercial	10% of capex on sport club and commercial)
4	Variable and escalation factor	5% of Total revenue

O&M for stadium operations

No.	Heads	Cost (Rs. Cr.)
1	Civil Maintenance	0.6
2	Electrical Maintenance	3.2
3	Horticulture Maintenance	0.5
4	security	2.6
5	House Keeping	1.0
6	Electricity charges	6.0
7	Water charges and misc. expenses	0.3
Total		14.2

⁶ Information from Sports India and EY Analysis

4.8 REVENUE ASSUMPTIONS

The proposed development options involves exploring various opportunities which complement in the revenue generation. Such development formats may include commercial, office space, retail space, hotels and residential including service apartments.

Table 27: Revenue Assumptions⁷

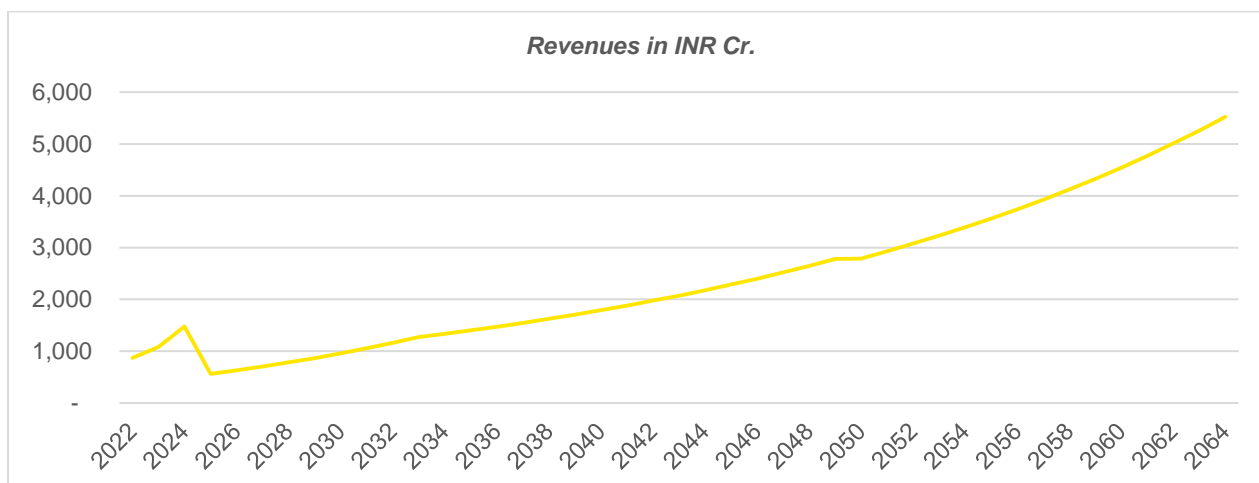
No.	Parameter	Unit	Value
Revenue form clubhouse			
1	Lifetime Member Capacity	#	5,000
2	Lifetime Membership Fee	INR	4,00,000
Revenue from Lifetime Membership			
3	Annual Member Capacity	#	1,000
4	Monthly Membership fees	INR	10,000
Revenue from commercial space leasing			
5	BUA for commercial block	Sq. ft.	2,69,829
6	Average Lease rate	INR/Sq.ft./month	180
7	Average occupancy in 1 st year	%	35
8	Annual increase in occupancy	%	5
Revenue from Nonsporting events			
9	No. of event days available with operator	#	45
10	No. of non-sporting event days	#	45
11	Avg. Facility rent charges	INR per day	4,00,000
Revenue from Sporting events			
12	No. of event days available with operator	#	30
13	No. of sporting event days	#	30
14	Avg. Facility rent charges	INR per day	2,00,000
15	Swimming pool: number of monthly walk-ins	Nos. min	100
16	Average monthly swimming charge	INR per month per user	1,500
17	Tennis no. of daily walk-ins	#	25
18	Tennis fees	INR per day	100
19	Other facilities(hockey, TT, Badminton etc.) walk-ins per month	#	100
20	Other facility charges	INR per month per user	100
21	Fitness centre walk-in per month	#	200
22	Fitness Centre charges	INR per month per user	1,200
23	Coaching footfall	#	100
24	Coaching Charges	INR per month per user	500
Revenue from parking			
25	Parking bays	#	200
26	Parking charges	INR per day	45
27	Average occupancy in 1 st year	%	45

4.8.1 Project Revenues

Snapshot of the project revenues for development at 40 is elucidated in table below:

⁷ EY Analysis

Figure 12: Revenue snapshot @ 40 FAR



4.8.2 Financing Structure

Table 28: Financing structure Assumptions

Particulars	Units	Value
Debt	%	65.0 %
Equity	%	35.0 %
Interest Rate	%	10.0 %
Ke – cost of equity	%	18.0 %
Loan Repayment Period	Years	10
Moratorium	Years	2
Loan Repayment Start	Date	01-Apr-23
Loan Repayment End	date	31-Mar-33
Weighted average cost of capital	%	10.5%

4.8.3 Depreciation and Tax Rates

For the purpose of building the financial model we have assumed the tax and depreciation rates as provided in the Income Tax Act and the Companies Act 2013.

4.8.4 Outputs

Key financial indicators have been summarized in the table below:

Table 29: Key financial indicators

Particulars	Unit	@40 FAR
		Value
Total project cost	INR Cr	124
Annual revenues (stabilized operations)	INR Cr	70
Equity IRR	%	18%
Annual concession fee (escalated by 5% year-on-year)	INR crore	0
Revenue share – bidding parameter	% of total revenues (from sports and non-sports/ commercial)	32%
Concession period		
c. For stadium	years	c. 30 years
d. For commercial		d. 45 years

4.9 CONCLUSION

Jawaharlal Nehru Stadium is developed over a land parcel of 104 acres with a seating capacity of ~15,000 and abodes state of art facilities for the dedicated sport athletes of India. SI has sought guidance from NITI Ayog to assess development activity at IGS Complex with an objective to improve and upgrade existing sports infrastructure to world class standards and to assess the potential of developing other sports, allied and supporting commercial activities at the stadium on Public Private Partnership (PPP) basis.

Based on preliminary assessment of the existing facilities at IGS Complex and proposed objective for overall development of the stadium, two options were evaluated for undertaking financial viability:

- ✓ 40 FAR as per Master Plan Delhi – 2021
- ✓ 400 FAR as per Transit Oriented Development (TOD) policy

In case of IGS Complex, the nearest metro station, i.e. ITO metro station and Pragati Maidan metro station. Since these stations are beyond 1 km radius of nearest transit facility, therefore, the TOD norm of Intense & standard TOD zone shall not apply.

The presence of ASI protected Firoz Shah Kotla monument within the 100 + 200 M buffer zone greatly affects the applicability of TOD polices on to the complex. The Yamuna River development Authority also restricts construction in the area as it is low lying and prone to flooding. The 2 permissions along with the distance from the metro station make the applicability of 40 FAR more feasible.

Based on the above conceptual development option of 40 FAR, financial analysis was carried out by the consultant providing following results:

- the total area available in case of 40 is 71,868 Sq.M respectively
- the total project cost is INR ~ 124 Cr for 40 FAR
- the revenue share for 40 FAR is 32% respectively

The total base EPC cost as per current prices is estimated to be INR 102 crores (in vase of 40 FAR as per MPD-2021) which includes cost towards, sports club with 20 rooms, office space, 3 star hotel, sports university and development of area for commercial exploitation. Such commercial area shall be restricted to sports related activities only and may include, sports shops, retails units, food joints or any other allied activities.

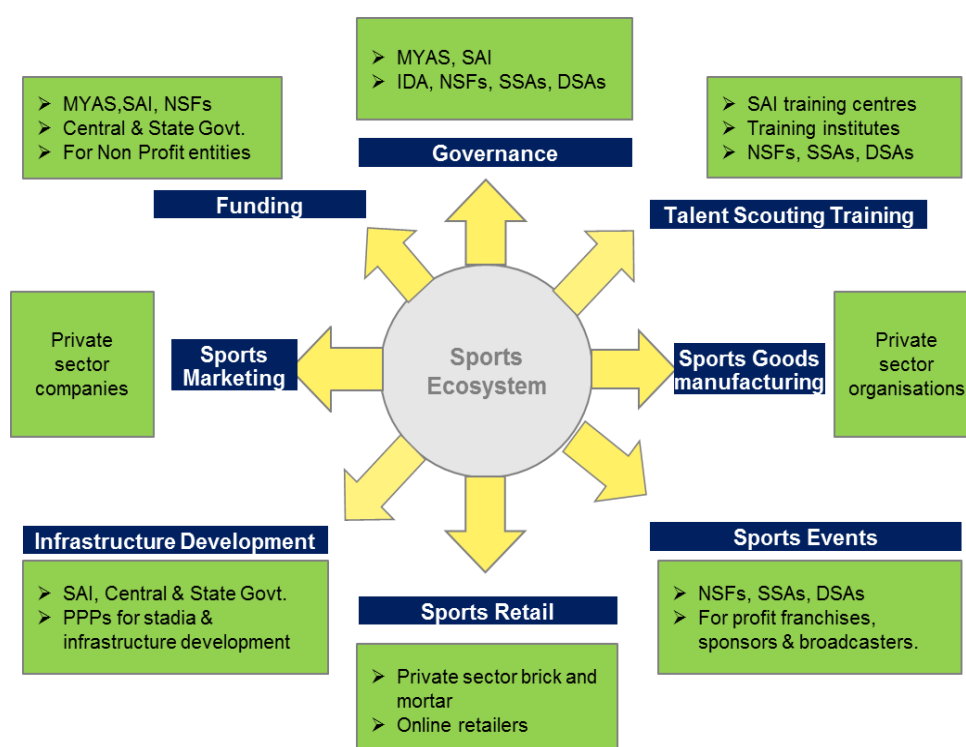


ANNEXURES

ANNEXURE A1 – INSTITUTIONAL FRAMEWORK OF SI

Sports ecosystem in India comprises of four types of stakeholders (government bodies, private entities, autonomous bodies, public private partnerships) across eight major segments. These stakeholders form the basis of sports industry in India and are involved in various activities spread over from governance of events of sports activities. Major stakeholders are:

- Ministry of Youth Affairs of Sports (MYAS)** - The Ministry of Youth Affairs and Sports acts as the apex government body for sports in India. It is primarily responsible for formulation of sports development programmes, development of sports infrastructure in the country.
- Sports India (SI)** – SI is responsible to implement the objectives laid out by the MYAS. It releases funds sanctioned by MYAS to NSFs and manage sports training and institution centers.
- Indian Olympic Association (IOA)** – it is the representative of International Olympic Association. It is an autonomous body that enforces the Olympic charter over NSFs of Olympic Sports. It also organizes the National game sand liaises with Government for financial assistance.
- National Sports Federations (NSFs)** – these are autonomous bodies responsible for promoting their respective sports and organizing tournaments. These organizations are assisted by state and district sports associations to meet the required goals and objectives. NSFs play at pivotal role in developing a sport with their close association with base level authorities that promotes a sports right from school and village levels up to the national level. The below figure illustrates sports ecosystem along with roles and responsibilities of stakeholders.



In order to promote sports centric activities in India, the Gol has undertaken key initiatives for use by public. The below table illustrates schemes currently being undertaken by SI to promote sports in India.

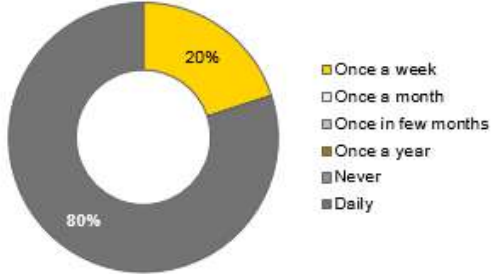
Scheme	Objective	Age Group	No. of center
NSTC	To scout sports talent by adopting schools	8 – 14	24 adopted schools and 32

Scheme	Objective	Age Group	No. of center
	having good sports infrastructure and record of sports performances		Akhara with 1,060 trainees (805 boys, 255 girls)
STC	To establish SI training centers at the state level; support state governments providing training infrastructure with SI sponsored boarding, lodging, scientific training and equipment support	12 – 18	56 centers, 5,394 trainees (3,807 boys, 1,587 girls)
SAG	To build SI sponsored sports infrastructure for training	12 – 18	19 centers, 1,676 trainees (961 boys, 715 girls)
ABSC	Collaboration with Indian Army to leverage sports infrastructure	8 – 16	18 center, 1,049 trainees (all boys)
Extension Centers of STC/ SAG Schemes	Develop schools and colleges having adequate infrastructure	12 – 18	70 centers, 1183 trainees (775 boys, 408 girls)
Center of Excellence (COE)	Providing advanced training to elite athletes	12 – 25	15 centers, 556 trainees (288 boys, 268 girls)
Come and Play Scheme	Optimize utilization of SI sports facilities, scout talent and provide training under SI coaches	8 – 17	53 centers, 18,195 trainees

ANNEXURE A2 – STAKEHOLDER INTERACTION

Key findings of the survey at IGS Complex is illustrated in the following section.

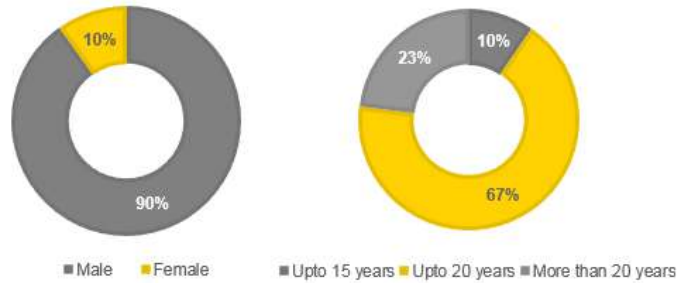
1. User frequency



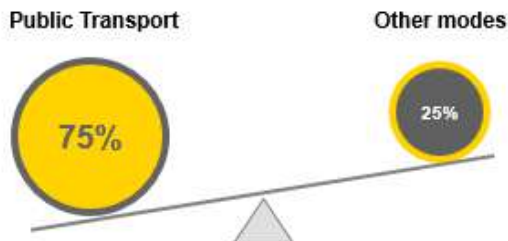
Most of the users present during the survey were registered users under the come and play scheme, who seek training for specific sports. On account of summer holidays the number of come and play users present at the stadium was estimated to be over 600 during the evening hours. The above figure depicts the user frequency at IGS Complex. Most of the users of the sports facility come daily. The second highest category is of the users who come once a week.

2. Gender and age profile

The Figure depicts the gender profile at IGS Complex. Due to higher male population and patriarchal view of our society the percentage of females participating in sport activities is low. The major proportion of the user group fall in the age category of “up to 20 years”. People in this category are mix of come and play users and elite athletes.



3. Mode of transport



Majority of the people use public transport (75%) to reach IGS Complex primarily on account of dedicated bus and metro stations located in the vicinity have played an important role in facilitating public transport at IGS Complex.

ANNEXURE A3 – COMPETITIVE SPORTS FACILITY

Yamuna Sports Complex

The stadium houses a table tennis venue with a capacity of 4,297. It has two show court tables, eight match tables and 10 warm-up tables, a archery venue with a capacity of 1500 and also parking facility for 500 cars. The nearest metro station to the sports complex is Karkardooma Metro station with a distance of about 2 km. Yamuna sports complex has state of the art Gymnasium facilities, clay & synthetic tennis courts and cricket ground. It also has AstroTurf hockey ground facility.



Facilities available: Tennis, Synthetic Tennis Courts(2), Clay-5, Cement-3, Tennis Practice Wall, Table Tennis, Badminton, Fitness Centre, Ladies Gym. Carrom, Chess, Billiards / Snooker / Pool, Basket Ball, Volley Ball, Gymnastics Hall, Skating, Aerobics, Taekwondo, Jogging Track, Artificial Climbing Wall, Cricket, Cricket Practice Pitches, Football, Hockey, Squash, including one glass back wall court, Olympic size Swimming Pool, Toddlers Pool, Sports Shop & Snack Bar.

Users: The stadium is mainly abode to pay and play users, but apart from that it also hosted Archery at the 2010 Commonwealth Games as well as Lawn bowls.

CWG Village Sports Complex

Commonwealth Games Village Sports Complex is an ancillary of Common Wealth Games Village that was envisioned to provide world class infrastructure for the prestigious event. It has residential zone, International Zone, Training area, Dining area and an operational zone. The closest metro station to CWG village is Akshardam.



Facilities Available: Aerobics, Badminton, Billiards/Snooker, Cricket, Dance, Fitness Centre/Multigym, Football, Jogging Track, Snack bar, swimming, table Tennis, Taekwondo, Yoga

Users: CWG Village Sport Complex offers facilities to general public under pay and Play scheme was created to host CWG 2010

ANNEXURE A4 – RETAIL MARKET IN VICINITY

CONNAUGHT PLACE

Designed as two concentric circles creating three circular walk rounds, Connaught Place has great historical significance and remains a key landmark and commercial destination in Lutyen's Delhi. Whilst it traditionally remains known for being the center of big corporate houses, CP has reemerged as a powerhouse center for retail, entertainment and as an F&B destination in central Delhi. As there is no scope for malls near Connaught Place, not much can take away from the sheen of this unmatched retail zone in the near future. Its retail offerings include an eclectic mix of categories such as watch boutiques, apparels, cafes, fine dining, restaurants and art stores.



CHANDNI CHOWK

Chandni Chowk is one of the oldest and busiest markets located in central north Delhi. It is believed to be the largest wholesale market in Asia. Chandni Chowk is divided into a number of smaller markets, each of which is known for selling a particular commodity. This adds to the peculiar charm of the market and adds to the convenience of shopping in this market. Besides shopping, Chandni Chowk also offers traditional Indian food.



SHAHDARA MARKET

Shahdara consists of two markets namely "Bada Bazaar" and "Chhota Bazaar". The 'Chhota Bazaar' which means 'Small Market' attracts a number of tourists and visitors for being the second oldest market place in the Capital City dating back to the 16th Century AD after 'Chandni Chowk'. This market place is very famous for its street food. Adjacent to Chhota Bazaar is the 'Bada Bazaar' or 'Big Market' that is mostly famous for its abundance in groceries, vegetables and fruits. One of the oldest Colonies in Shahdara is Bholanath Nagar known for its affordable wooden furniture and accessories



LAXMI NAGAR MARKET

Laxmi Nagar market is a small market which mostly caters to the residents of Laxmi Nagar, Preet Vihar and Geeta Colony. It consists of grocery shops, convenience stores and a mix between retail showrooms and local retail stores. Laxmi Nagar market is also famous for its street food. The market is a usual spot for various accountancy students due to the coaching centres present in Laxmi Nagar.



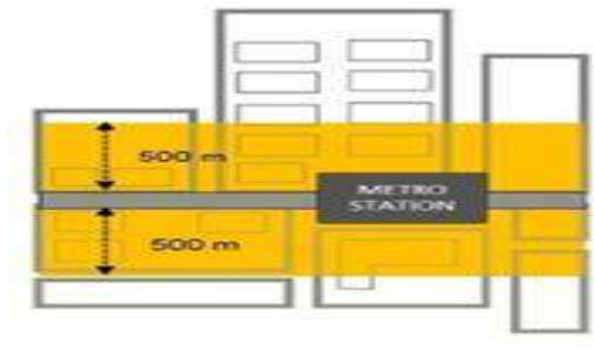
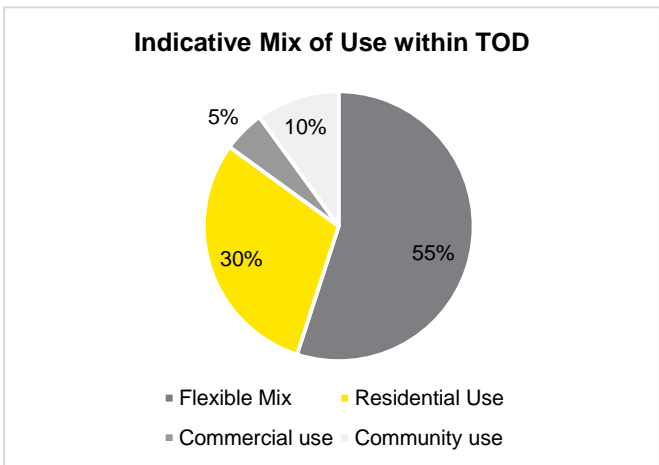
ANNEXURE A5 – TRANSIT ORIENTED DEVELOPMENT

As per the National Transit oriented development policy, TOD needs to integrate land use and transport planning and aims to develop planned sustainable urban growth centres, having walk able and liveable communes with high density mixed land-use. Citizens have access to open green and public spaces and at the same time transit facilities are efficiently utilized.

It focuses on creation of high density mixed land use development in the influence zone of transit stations, i.e. within the walking distance of (500-800 m) transit station or along the corridor in case the station spacing is about 1km and advocates pedestrian trips to access various facilities such as shopping, entertainment and work.

It also increases the accessibility of the transit stations by creating pedestrian and Non-Motorized Transport (NMT) friendly infrastructure that benefits large number of people, thereby increasing the ridership of the transit facility and improving the economic and financial viability of the system. Since the transit corridor has mixed land-use, where the transit stations are either origin (housing) or destination (work), the corridor experiencing peak hour traffic in both directions would optimize the use of the transit system

- i) About 500 m. wide belt on both sides of Centre line of the existing and planned/approved MRTS Corridors is designated as Influence Zone which has been identified in the respective Zonal Development Plans, along with stations. The same will be updated by DDA from time to time.
- ii) Entire approved plan of a TOD integrated scheme will be included in the zone if more that 50% of the plan area falls inside the influence zone. The TOD integrated scheme to be submitted by DE will be of the area under his ownership/ entitlement and not of the adjoining area





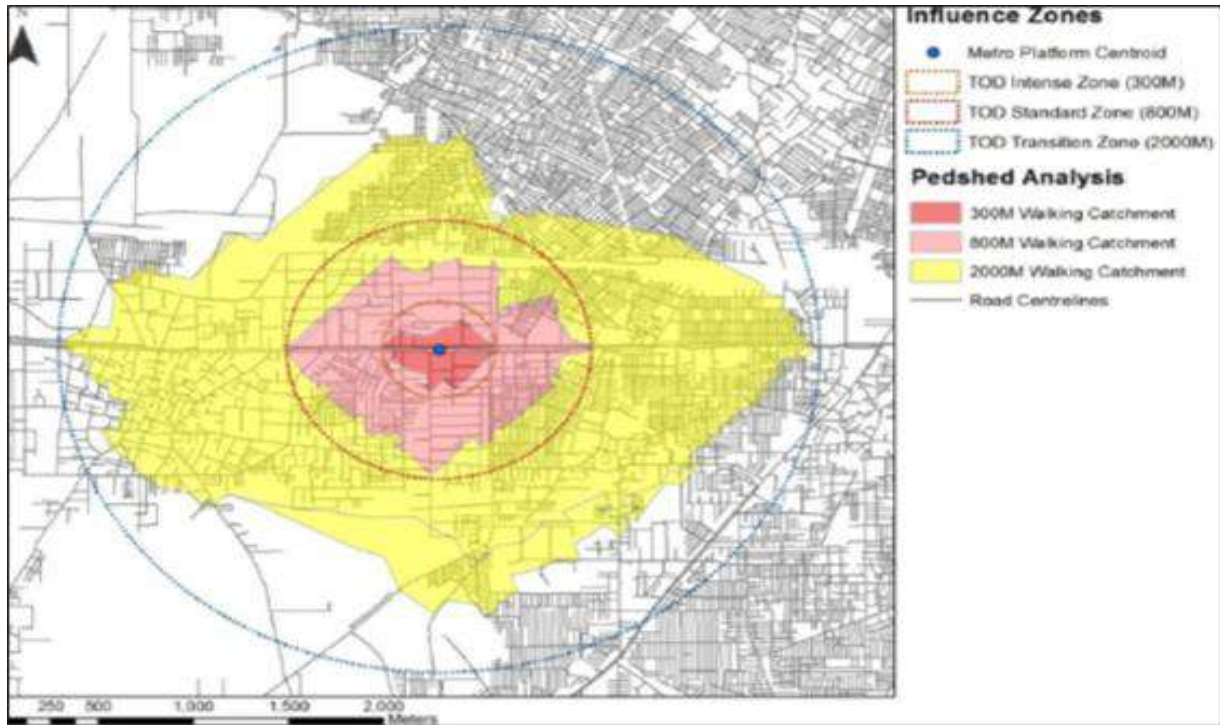
TOD IN THE CONTEXT OF DELHI

Delhi's recent investments in Public Transport Systems which include a world class Metro System and a planned BRT Network, Delhi has been unable to deliver efficient, comfortable and affordable mobility options to its citizens. The current lack of connectivity, subsidized parking options as well as a lack of safety for walkers, cyclists and women in the city has resulted in ever increasing number of private vehicles in the city. Total vehicular emissions contribute to 70% of the air pollution in Delhi multiple respiratory ailments and deaths. The objective of TOD is to restructure and redefine how a city works, lives and finds means of recreation.

TOD Zones of Influence		
Zone 1 : Intense Zone	Zone 2: Standard TOD Zone	Zone 3: TOD Transition Zone
<ul style="list-style-type: none"> • 300 M influence zone of all MRTS Stations 	<ul style="list-style-type: none"> • 800m* (10-min walking) influence zone of all MRTS Stations. 	<ul style="list-style-type: none"> • 200m** (10-minute cycling distance) influence zone of all MRTS Stations. • 300 M influence zone of BRT corridors.
<ul style="list-style-type: none"> • 800m* (10-min walking) influence zone of Regional Interchange Station (i.e. Rail -MRTS, or two MRTS lines.) 		<ul style="list-style-type: none"> • Zones within Intense or Standard TOD Zones which are not permitted for redevelopment but need enhancements in public realm and network connectivity.

TOD ZONE OF INFLUENCE

The development in TOD is categorized under 3 Zones namely intense, standard and transition zones within 300 M, 800 M and 2000 Meter radius from the Metro Stations



case of JLN stadium, Jangpura stadium open to the East Gate of the stadium and more than 50 % of the area falls under the 500 Meter radius from the Metro station. From the JLN Metro station on the same Violet line, the Zone of influence covers more than 50 % of the complex area under the 800 Meter radius zone. Since there are no protected monuments amongst the 52 A.S.I enlisted monuments in the vicinity of the stadium complex, full utilization of TOD norms should be applicable to JLN Stadium Complex. The TOD policy in Delhi is under review presently and is presently being scrutinized on project basis as well.



BENCHMARKING AND ANALYZING BEST PRACTICE

Sports stadiums and infrastructure remains the pride of the nation and become the much needed symbol of constructive young India. These stadiums not only provide match playing venues but also becomes centers of training and excellence in sports. Already with the training programme and come and play schemes, most of the Sports India Stadiums extensively support sports in the country. Being the kind of large infrastructure needed to host international events, maintaining these stadiums/ venues after the events are over or in between events remains a challenge across the world. We have studied best practices in stadiums Vis-a-Vis Olympic & world cup requirements to host a match. For Olympic venues, Athletics and football stadiums have been studied. World cup venues for football, the redevelopment plans after the events, the viability plans for maintaining sports with an added product mix and stadiums fallen to disrepair & disuse due to lack of foresight across many venues have all been studied to understand the life cycle of a stadium, the international match holding capability and the much needed sustainability of the project via supporting functions.

The existing stadiums in Delhi NCR have also been studied with their facilities to understand in case of a major international sports event, how JLN stadium could be placed.

A list of major sports international events which could be held in the stadium have also been identified along with their requirements.

In case of 400 FAR, the areas under the stands which have been identified for sports retail can also be completely left vacant for international matches and set up as the built up area available is sufficient to accommodate the component of retail and sports related commercial.

Major sports disciplines and facilities have been identified which can be upgraded to bring sports training courts like the Basketball, badminton, Table Tennis, Handball etc. can be played under international match playing conditions.

Table below is a snapshot of the stadiums in Delhi-NCR and their capacities.

Stadiums in National Capital Region						
S. No	Name	Location	Capacity	Owner	Discipline	Event
1	Jawaharlal Nehru Sports Complex	Delhi	60,000	SAI	Athletics/ Football/ Weightlifting.	Common Wealth games
2	Indira Gandhi Sports Complex	Delhi	14,348	SAI	Cycling, gymnastics, Wrestling.	Common Wealth games
3	Thyagraj Sports Complex	Delhi	4,494	Govt of NCT	Netball	Common Wealth games
4	Talkatora Sports Complex	Delhi	3,035	NDMC	Boxing	Common Wealth games
5	R.K. Khanna Tennis Stadium	Delhi	5,015	DLTA	Tennis	Common Wealth games, Fed Cup, Davis cup, Indian open
6	Ambedkar Stadium	Delhi	35,000	MCD	Football	Nehru Cup, FIFA World cup Qualifier
7	Netaji Subhash Sports Complex	Delhi		DDA	Tennis, Badminton, Table Tennis, Billiards / Snooker / Pool, Basket Ball, Cricket, Football, Squash	Training
8	Shivaji Stadium	Delhi	7,000	NDMC	Hockey	Common Wealth games Practice venue
9	Nawab Mansur Ali Khan	Delhi		Jamia University	Badminton/ Basketball/ Table	Training

Stadiums in National Capital Region						
S. No	Name	Location	Capacity	Owner	Discipline	Event
	Pataudi Sports Complex				Tennis	
10	Yamuna Sports Complex	Delhi	4,297	DDA	Archery, Table Tennis	Common Wealth games
11	Jawaharlal Nehru University Stadium	Delhi	2,500	JNU	Cricket, Football, Hockey	Training
12	Karnail Singh Stadium	Delhi	5,000	Railways	Athletics/ Football/ Cricket/ Hockey/ Badminton.	National Kabaddi Championship, National Weightlifting Championship, Women's Cricket world cup, ODI cricket match
13	Siri Fort Swimming Pool	Delhi		DDA	Swimming'	Training
14	CWG Village Sports Complex	Delhi		DDA	Aerobics/ Badminton/ Billiards / Snooker/ Football/ Swimming/ Table Tennis/ Taekwondo/ Yoga	Commonwealth Games Training Centre
15	Surjit Singh Badminton Academy	Delhi	200		Badminton	Training
16	Siri Fort Sports Complex	Delhi	5,000	DDA	Squash, Badminton	Common Wealth games, Thomas cup
17	Central Reserve Police Force (CRPF) Shooting Range	Khardarpur	345	CRPF	Shooting	Common Wealth games
18	Dr. S.P. Mukherjee Swimming Stadium	Delhi	5,178	SAI	Swimming, Diving, Water polo	Common Wealth games
19	Dr. Karni Singh Shooting Range	Delhi	2,000	SAI	Shooting	Common Wealth games
20	Major Dhyan Chand National Stadium	Delhi	19,118	SAI	Hockey	Common Wealth games
21	Delhi University Stadium	Delhi	10,132		Rugby Seven	Common Wealth games

Table below is a description of international best practices in terms of sports viability.

Brief List of Sports Cities & sports supporting infrastructure				
Sr. No.	Name and Location	Sports Infrastructure		Sports/ Non-Sports/ Real Estate Components
		Sports Components	Capacity	
1	Singapore Sports Hub	National Stadium	55,000	<ul style="list-style-type: none"> Sports Retail Sports Museum
		Indoor Aquatic Centre	6,000	
		Multipurpose Arena	3,000	
		Water Sports Centre	Temporary Seating	
		Indoor Stadium	12,000	
2	Dubai Sports City	Multipurpose Sports Stadiums (Cricket, Athletics, Football)	60,000	<ul style="list-style-type: none"> Residential 18Hole Golf Course Malls/Retail Offices Clubs Retail Commercial Office Towers Schools
		Cricket Stadium	25,000	
		Indoor Arena	10,000	
		Hockey Stadium	5,000	
		Sports Academies and Excellence centres	-	

3	Tunis Sports City	Sports Clinic	-	<ul style="list-style-type: none"> • Other Public Amenities and Utilities • Residential • Hotel • Spa • Clubs • Retail • Commercial Office Towers • Schools • Other Public Amenities and Utilities
		Football/Athletic Stadium	10,000	
		Aquatic Stadium	4,000	
		Indoor Stadium	5,000	
		18 Hole Golf Course	-	
		Sports Academies	-	
Sports Clinic	-			
4	Barra Olympic Park, Rio	Carioca Arena 1 (basketball, wheelchair basketball and wheelchair rugby)	16,000	<ul style="list-style-type: none"> • After the conclusion of the games, the site was intended to be repurposed to become the Olympic Training Centre, a sports training facility operated by the Brazilian Ministry of Sports however due to poor foresight and planning the site now remains unused and in a state of disrepair. • The open tennis courts have recently been opened to the public and is making steps in making the park more accessible to the public.
		Carioca Arena 2 (wrestling, judo and boccia)	10,000	
		Carioca Arena 3 (fencing, taekwondo, Paralympic judo and Paralympic fencing)	10,000	
		Future Arena (handball and goalball)	12,000	
		Maria Lenk Aquatics Center (diving, synchronised swimming, water polo)	5,000	
		Olympic Aquatics Stadium (swimming, water polo play-offs and Paralympic swimming)	15,000	
		Olympic Tennis Centre (tennis, wheelchair tennis and football 5-a-side)	10,000	
		Rio Olympic Arena (gymnastics and wheelchair basketball)	12,000	
		Rio Olympic Velodrome (track cycling)	5,000	
5	Queen Elizabeth Olympic Park, London	Olympic Stadium,	80,000	<ul style="list-style-type: none"> • The Olympic Stadium has been transformed in to the London Stadium and is currently being used by West Ham Football Club and as such is a profitable venture. • Olympicopolis: A 75,000-sq.m residential development. • Creation of a new design school for University College London. • A campus for the London College of Fashion. • Smithsonian museums • A 600-seat theatre for Sadler's Wells
		London Aquatics Centre	17,500	
		Lee Valley VeloPark	6,000	
		The Copper Box	7,500	
		Basketball Arena	12,000	
		The O2 Arena (North Greenwich Arena)	20,000	
		The Ricoh Arena (City of Coventry Stadium)	32,600	
		Elton manor	10,500	
		Riverbank Arena	16,000	
Water Polo Arena	5,000			
6	Wembley Park	Wembley Stadium	90,000	<ul style="list-style-type: none"> • 4,000 new high quality homes of different sizes for a mix of tenures • A new 7-acre park, 1.5m sq. ft. of commercial space, including new offices and high street shopping • Hotels, Student accommodation • Primary school and nursery • Meeting places ,3,400 public car parking spaces

7	Olympic Green, Beijing	Beijing National Stadium	91,000	<ul style="list-style-type: none"> • Pop concert venue • Public pool • Soccer • Luxury apartments • Retail
		Beijing National Indoor Stadium	19,000	
		Beijing National Aquatic Center	17,000	
		Olympic Green Tennis Center	32,400	
		Olympic Green Archery Field	5,000	
		Olympic Green Convention Center	5,695	
		Olympic Green Hockey Field	17,000	
Sr. No.	Name and Location	Sports Infrastructure		Sports/ Non-Sports/ Real Estate Components
		Sports Components	Capacity	
8	Khalifa International Stadium	Khalifa International Stadium	40,000	<ul style="list-style-type: none"> • High end Malls • Hotels
		Aquatics centre		
		Indoor hall		
9	Al Wakhra Sports Complex	Al Wakhra Stadium	40,000	<ul style="list-style-type: none"> • Restaurants • Offices • Retail • High End housing
		Aquatic Centre		
		Multipurpose hall		
10	Optus Stadium Complex, Perth	Optus Stadium	70,000	<ul style="list-style-type: none"> • The stadium is serviced by over 50 food and beverage outlets. • Premium facilities available on event and non-event days for conferences, functions and meetings.
11	Amsterdam Area Complex, Amsterdam	Amsterdam Arena	54,033	<ul style="list-style-type: none"> • IMAX Multiplex • Nightclubs • Sports Retail (Decathlon, etc.) • Kiosks • 15+ Eateries, Fine dine restaurants, Pubs, etc. • Malls • Hotels • Functions both as a stadium and entertainment venue.
12	Old Trafford	Old Trafford Football Ground	75,000	<ul style="list-style-type: none"> • Stadium Tours • Pubs/Bars • Sports Retail (Manchester United Megastore, Adidas) • Kiosks (Temporary) • 15+ Eateries, Fine dine restaurants, Pubs, etc. • Conference Halls • Exhibition Pavilions • Banquets Halls • Functions both as a stadium and entertainment venue.
13	Athens Olympic Sports Complex	Spyros Louis Athens Olympic Stadium	72,000	Home pitch for AEK F.C., Greek national football team
		Nikos Galis Olympic Indoor Hall	19,250	Home court for Panathinaikos B.C., Greek National Basketball Team
		Athens Olympic Aquatic Centre	11,500	Large areas of the site remains in a state of ruin and disregard however a there are plans to develop this plot with Homes, Malls, Hotels and Parks.
		Athens Olympic Tennis Centre (The Main Court)	8,600	
		Athens Olympic Velodrome	5,250	

SPORTS ACADEMIES & SPORTS UNIVERSITY

Studying some of the top sports Academies and Sports Universities across the world, a career in Sports Journalism, coaching, sports medicine, sports Sciences, Research in the same field, nutrition, bio mechanics, performance analysis etc. lacks in the country on a holistic level. Also to be included in the University curriculum is a basic graduation/post-graduation course with highest applicable sports Quota in the country.

A compilation of top sports courses and Universities across the world and India is compiled below. Such a program not just brings in revenues but also provides the much needed base resource for training coaches, indigenous research, performance management, nutrition rehabilitation etc. both as career options in sports as well as trained skillset in the sports sector of India.

Loughborough University	
School of sports , Science and Health Science	
Courses	Description
Bachelors	sports, exercise and health sciences
	sport coaching and physical education
	sports management
Foundation courses	for athletes sport science, statistical mathematics, applicable mathematics, geography, chemistry, Psychology with sociology, materials with engineering science, biology, business
Master Courses	Exercise As Medicine
	Exercise Physiology
	Sports And Exercise Psychology
	Musculoskeletal Sport Science And Health
	Sport Biomechanics
	Sport And Exercise Nutrition
Research	Sports Management
	Dietary modification of gut function and role in human metabolic disease
	Extreme heat policies in sport
	Impart performance of sports balls
	Mechanics of advanced materials
	Sport events and health promotion
	Understanding links between coach leadership and coach athlete relationship
	Stunning, short stature and cardiovascular health
Mechanics of biochemical	
Motivation and health behaviours	
School of Sports Business	
Masters	Sport business
	Sport business and leadership
	Sport digital and media technology
	Sport business and innovation
	Sport marketing
Deutsche Sportochshule Koln (German sport university, cologne)	
Courses	
Bachelors	sports management and communication
6 months	sports journalism
	sport and health in prevention and therapy
	physical education
	sport, adventure and expressive movement
	sport and performance
Masters	sport, media and communication
4 semester	Rehabilitation , prevention and health management
	international sport development and politics
M.Sc.	sport and movement Gerontology
	Exercise science and coaching
	Sport tourism and recreation management
	Sport management
	Human technology in sport and medicine
M.Ed.	Psychology in sport and exercise
	Physical education

PhD	Exercise science and coaching
	Natural science
	Social science
Chicago Sport Institute	
Area: 14,000 sq. feet	
30 yard indoor track for conditioning, strength, agility and speed training	
Performance training, sports medicine and integrative health centre	
Programs	
	Satellite Coaching Program
12 week program	Satellite personal training is perfect for accountable and highly motivated long distance clients that are serious about reaching their performance and transformation goals.
	Fat Loss Transformation Program
12 week program	Training, nutritional plan, supplement plan, conditioning,
Athletic development Program	Training, nutritional plan, supplement plan, sport specific conditioning,

ANNEXURE A6 – PPP AS AN ENABLER IN SPORTS INFRASTRUCTURE

SPORTS INFRASTRUCTURE CREATION

While evaluating proposal for redevelopment, improvement or expansion of any existing sports facility through PPP, it is imperative to understand the dynamic stakeholders involved and define a vision for undertaking such development. The process of proposing even small changes in the operations of any existing sports structure shall be backed up by defined purpose and need of such change. Moving forward promoting sports does not essentially mean developing more infrastructure, such vision would result in adding up of inventories of sports stadiums. Without analyzing the requirement and identifying the users for such infrastructure facilities, the problem of sufficient utilization for existing purposes shall remain unanswered. Therefore, the concept of development of sports facility should enable the objective of determining the operational efficiency of current facilities and upgrading the existing stadiums with advanced and sustainable solutions.

Establishing a vision for redevelopment of any existing sports infrastructure shall typically address three key questions.

WHAT DO WE WANT?

This question deals with understanding the preliminary thoughts and ideas that lead to emergence of this project concept. The thoughts at this stage are more focused towards building a “dream project” and analyzing the international best practices to be brought into the current scenario. The stage brings in an idealistic scenario which possible options. However it is important to study the operative environment by adding realistic approach to the thought process, which leads us to our next question.

WHAT DO WE NEED?

It is important to align our thought process of an “ideal stadium” with the current environment in which the stadium operates. Development of a stadium or expanding the scope of an existing facility is related to many factors like regulatory policies, political stability, market dynamics, usage patterns and many others. Thinking of creating infrastructure in isolation or skipping any such factor may lead to ambiguity in successful results.

WHAT CAN WE AFFORD?

The final question relates to the extent we would want to explore the possible options. Every project faces multiple constraints while structuring the options. These constraints could be financial, political, fundamental, operational etc. in nature. Analysis of all the options considered at stage I, while creating our idea of an ideal scenario should now be restricted to realistic and attainable options.

Addressing these questions will help us formulate a vision for this project and form a pragmatic approach towards structuring of this report. The objective of this feasibility study is to outline the potential options for increasing the utilization of this expansive and world-class infrastructure on a PPP mode. Methodology proposed involves a combination of options including providing more facilities to the existing user groups and/or targeting potential user groups for this facility.

Another purpose of entering into a PPP to maximizing both sustainable revenue, and ensuring access to citizens at large. However. It is a predetermined condition for any options, to ensure that training and coaching for sportspersons with potential to contend for medals at all levels shall continue unhindered. The prime motive is to unify sports with non-sports activities and provide splendid experience to the sportspersons and other user groups involved.

SPORTS INFRASTRUCTURE IN INDIA

Sports in India is primarily a state and central government subject, and as huge portion of the sports infrastructure is owned and managed by respective governments. Since the investments made by most states in sports has been negligible, for most part, India has not succeeded in providing universal and barrier free access to sports or creating a sports culture. Another major reason is related to low level role of private sector involvement in sports development in India except in cricket which have been majorly concentrated on for-profit academies and CSR/ non-profit initiatives. Many federations are highly dependent on government funding for carrying out their key objectives, such as organizing championships, procuring equipment and training sportspersons. The current model of sports governance not only breeds inefficiencies; issues around irregular activities have also been reported in the past.

The sports policy of most states is formed with the same objectives of 'sports for all' and achieving 'excellence in sports'. However, the micro aspects under various categories contribute towards the diversity in performance by different states. However, over the last few years, sports industry has witnessed a transformation at the back of factors like growing sophistication in infrastructure needs, increased visibility of competitive sports, emergence of sports as a business proposition and proactive efforts of India to host numerous mega sporting events.

The launch of Khelo India initiative by the Government focusses on developing sports infrastructure, encouraging a sporting culture through competitions and identifying and nurturing young talent. However, there is a need for greater involvement of the private sector in sports infrastructure development in India due to limitation of funds to develop and maintain the sports facilities as well as lack of technical and management proficiency. There is a need for private funding, management, skills and subsidies to further the national sports goals, as well as to develop a high potential and robust domain with immense opportunities in the short and long term.

ROLE OF PRIVATE SECTOR IN SPORTS

PPPs can help the government fast track infrastructure development and therefore it is imperative to create favorable policies and guidelines in order to attract private investments for a sustainable development goal. PPPs can be explored for creating infrastructure through Built – Operate Transfer (BOT) models by contracting construction companies specializing in building multi-purpose centers and allowing professional private sector entities to manage and control the existing sports infrastructure with the objective of building commercial models and converting the same into revenue centers. Higher asset utilization and revenue generation could in turn incentivize sports infrastructure creation.

In developed economies, stadiums have been designed as multi-functional facilities which are capable of hosting various sporting events, concerts and other types of entertainment as well. Such development have resulted not only in effective utilization of facility, but also act as a catalyst for urban growth in the region.

Various states in India such as Gujarat and Rajasthan, have delineated the role of PPP in their sports policy while other states such as Madhya Pradesh have already started development of sports cities via the PPP mode. The sports policy of Haryana, a leading sporting state, defines in depth the need for development of sports facilities when developing new commercial/residential spaces.⁸ Keeping in mind the need of developing places for development and promotion of sports. Such provisions can have a long term impact on improving the sports culture in every state. Timely planning and development of sports infrastructure seems to be the current problem.

Favorable PPP policy and direction/incentive for PPP in sports from the central government: The Union Budget 2016 focused on reviving PPP for infrastructure creation through action for ensuring improved

⁸ Development of Sports & Sports Infrastructure: A Roadmap – ASSOCHAM - YES BANK, February 2014

liquidity, easier credit rating mechanism, and boosting (Real Estate Investment Trusts (REITs) and Infrastructure Investment Trusts (InvITs), further easing fund flows. In addition, the central government may develop guidelines for PPP in sports policy for states to adopt and make available case studies of successful implementation of PPP by states in India. The center may incentivize states to adopt PPP to spur infrastructure creation by using the same as a criteria for allotment of national games.

CASE STUDY:

Envisaging and defining the role of PPPs for sports infrastructure development in Andhra Pradesh

On account of Andhra Pradesh being selected to host the national games 2018-19, the State Government has enhanced the budget for development of sports infrastructure. The Government of Andhra Pradesh expects to make an allocation of almost INR1,000 crore for developing stadium in different districts. The objective of using PPP for sports infrastructure development stems from the flexibility it allows the government to focus entirely on recruiting top physical education trainers and coaches to train youth in different sports activities while the private players focus on the revenue aspect.

Source: Andhra Pradesh to allocate 1,000 crore for sports infrastructure, The Hindu

The State Government believes taking up the PPP mode would allow for the incorporation of a provision for setting up shopping complexes and other infrastructure in the stadium. This would not only help in effective maintenance of the stadium but would also make the stadium self-sufficient in terms of revenue. PPP initiative, private players would be allowed to open these facilities for the citizens on payment of fees and the stadium can be put to use all year round, driving sporting culture. Once built, the stadium could also double as a venue for business activities, annual general meeting, school games, sports functions, regional games, music concerts, live performances, etc.

Source: Sports infrastructure to get a taste of PPP. Financial Express

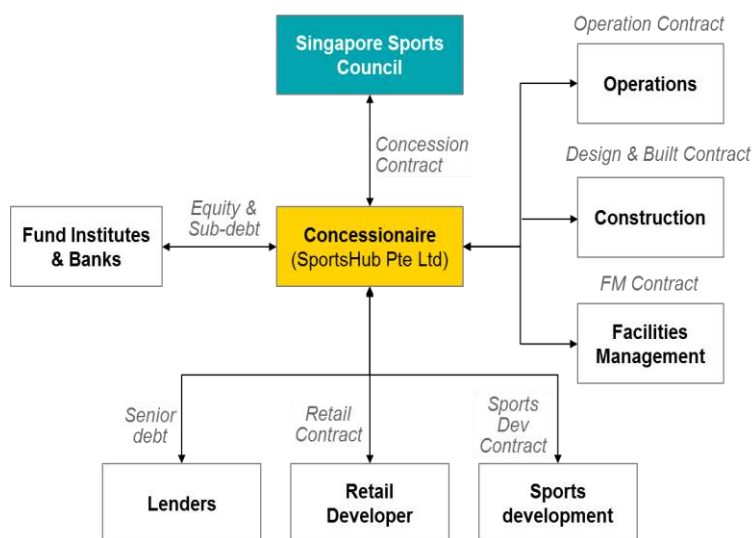
BENEFITS OF HAVING PPP STRUCTURE IN SPORTS:

- ▶ Provides support and resources to achieving the ultimate aim of government
- ▶ Reduces the initial capital investment for the government
- ▶ Risk Sharing among different parties which are best equipped to handle it
- ▶ Improved expertise and reduced operational cost
- ▶ Increased revenue sources due to increased capabilities
- ▶ Increased sustainability of the project
- ▶ More focus on supporting efficient resource development
- ▶ Offers a more holistic approach towards appropriate collaboration of sustained 'Public Interest' and provides an attractive commercial option to Private Sector Developer for meeting the social needs of today.

It is the viability of infrastructure that, to a large extent, affects the sustainability of the projects that can bring about meaningful private participation. Sports development needs to be monitored by the Centre and at the same time, the states should develop meaningful sports policies that critically address the ways and means to overcome the gaps in sports infrastructure and promote sports development in all respects.

ANNEXURE A7 – INTERNATIONAL BEST PRACTICES

SINGAPORE SPORTS HUB



The Singapore Sports Hub is a state-of-the-art, fully integrated sports, entertainment and lifestyle hub that was built in 2014 and hosts sporting and entertainment events. The project cost of the Sports Hub was c.S\$1.8billion, making it the largest sports PPP project in the world. PPP agreement between Sport Singapore and Sports Hub Pte Ltd is responsible for the design, construction, financing, operations and maintenance of the Singapore Sports Hub for concession length of 25 years. The hub is created with a vision to host various multi-purpose sports, become a recreation and lifestyle location to attract

internationally renowned sports events and performances from all over the world.

In a typical PPP structure, the project company may engage a subcontractor to operate and maintain those facilities to enable the procuring authority to carry out its business at the facilities. However, this project is unusual as the project company is also charged with running the day to day activities at the facilities in a way that complements the procuring authority broader objective of facilitating and encouraging sport in Singapore.

Another unique element of the project relates to the fact that the project company not only receives a monthly tariff in respect of the basic steady-state operation but is also incentivized to maximize the usage of the facilities and ensure a vibrant calendar of events. These incentives come in the form of a sharing mechanism with the authority in respect of third party revenues generated at the venues, whether through ticket sales, venue hiring income, commercial rights income, car park charges or retail rental fees.

Key Learnings

- ▶ Engaging multi-faceted participation of PPP Co. with global experience in operating and maintaining the facility
- ▶ Freedom to PPP for design of facility
- ▶ Performance based revenue mechanism on construction and O&M activities
- ▶ Defect liability and deduction on payment mechanism for non-performance on O&M works
- ▶ Incentivize the PPP Co for maximizing the usage of the facility
- ▶ Promoting participation in sports activities through marketing major marquee events
- ▶ Exploiting commercial rights to maximize project revenue

AMSTERDAM ARENA

In the case of Amsterdam Arena, due to the significant investment costs and the willingness of the City of Amsterdam to delegate operational tasks to other parties, a public-private partnership was structured. The vision of the Amsterdam Arena's stakeholders was to create a venue capable of hosting world class sporting and non-sporting events, open seven days a week and with the potential to become like a second city center of Amsterdam. AFC Ajax the football Club invested only in football-related development (its core business) as it is the main tenant and the most important user of the Arena. The stadium was leased to Ajax as an off-balance way of financing with zero cash transactions. Eight major private companies, the so called "founders", invested in the project in exchange for sponsorship and exclusive hospitality rights for a ten year period. The commercial partners became the first choice suppliers of different goods and services and they all received the rights to a private sky lounge. However, they do not have any stake in the stadium ownership.



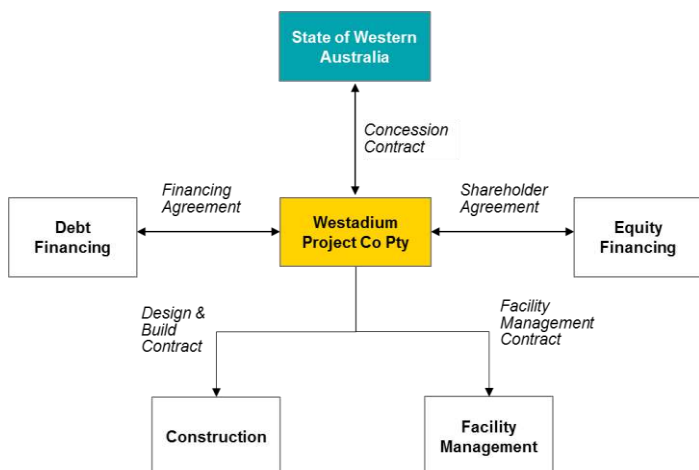
The owners of the Amsterdam Arena are exclusively the City of Amsterdam and Stadion Amsterdam N.V., a public limited company. Stadion Amsterdam N.V. rents the stadium to another company called Stadion Amsterdam C.V., a limited partnership fully in charge of the operations.

The legal differentiation between the ownership company and the operating company has been structured in order to reduce the owners' exposure to operating risks. Therefore, if Stadion Amsterdam C.V. makes losses, the owner is generally not affected. Daily operational decisions of the Arena are entirely in the hands of Stadion Amsterdam C.V. as the direct involvement of the owners is only periodical or indirect.

Key Learnings

- ▶ The Government investment in the Arena act as an catalyst to encourage urban renewal and growth in the region
- ▶ Concession of the site was granted for a fairly low minimal price in order to lower the financial burden
- ▶ Government income generated through real estate project developed in the region in the subsequent years
- ▶ AFC Ajax invested only in football related development as its main tenant and user of Arena
- ▶ Investment of commercial partners in exchange for sponsorship and exclusive hospitality rights for a ten year period
- ▶ The earlier sale of the depositary receipts, or "certificates of share"
- ▶ Stadium tour and museum serving as an important revenue sources for the operator.
- ▶ The parking complex under the stadium, the Transferium, is owned and operated directly by the Municipal Authority.

PERTH ARENA



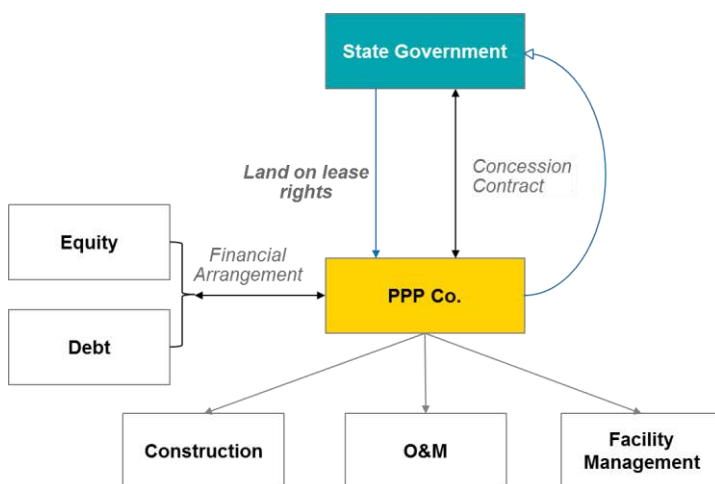
The keystone event behind the decision to build the Arena was the Hopman Cup tennis tournament. However, to be successful, the Arena hosts a range of other events. The procurement options analyzed and identified that for the stadium and sports precinct works in package, a Design, Build, Finance and Maintain (DBFM) model was undertaken to best balance the control of project cost and risk with the achievement of the project objectives, and most likely to maximize value-for-money (VFM) outcomes for the state. The state also selected to make a capital contribution of 60% of the construction cost.

Whereas, payment during the operating phase is in the form of a Monthly Service Payment (MSP) calculated in accordance with the Project Agreement and paid in arrears. The MSP covers the remainder of the construction costs, financing costs and maintenance costs including lifecycle replacement. The MSP is subject to abatement in accordance with the abatement regime set out in the Project Agreement. The state retains the responsibility, through the appointment of a stadium operator, for the day-to-day operation of the stadium and sports precinct. The state also retains ownership of the stadium and sports precinct.

Key Learnings

- ▶ Design of facility was carried out by the state
- ▶ The model injects significant intellectual, operational and commercial focus of the consortium entities such as the FM Subcontractor and the Financiers into the procurement process resulting in whole-of-life benefits;
- ▶ Excellent track record of achieving on time and on budget outcomes when compared with traditional procurement models.
- ▶ Robust maintenance regime is delivered over a 25-year operating period to minimize asset deterioration and a focus on preventative maintenance rather than reactive maintenance

TRANSSTADIA



The stadium has been developed with a project cost ~INR 540 Cr on a land area of ~ 10 acre. The stadium consists of development of 16 sports & entertainment, hospitality, retail etc. with an objective based on "utilization model". The emphasis was on to create a facility wherein each part will contribute to the revenue. But this model requires that the facility be situated within the city. It is being developed on PPP model land lease model with a concession period of 35 years, extendable for a further 35 years, with two percent revenue sharing for sports development in the country. The

Arena boasts of a FIFA standard natural turf with a seating capacity of 20,000, including patented expertise that enables the conversion of a section of the stadium into a 4,000 capacity pillar-less multi-purpose indoor venue, creating an optimum spectator experience. Not only can the latter can be utilized for 12 indoor sports, it can further increase the revenue by hosting exhibitions, social functions, conventions and

corporate events. The facility also house a 'members only' Eka Club, which will become a fitness and entertainment hub for the city.

Key Learning

- ▶ Use of technology for effective utilization of land which can be transformed in activity hub
- ▶ Use of space in non-sports activities are essential as they contribute to large scale revenue expectations
- ▶ Longer land lease concession period enable the PPP Co. to develop stable cash flow
- ▶ Membership program for non-sport activities such as club, fitness and entertainment hub to support revenue potential for PPP Co.
- ▶ Marketing initiative such as leasing branding rights, major marquee events can promote sports facility

Commercial sports activities through such as Pro-Kabaddi, sports retail brands are other potential avenue of revenues.

ANNEXURE A8 – FINANCIAL STATEMENT

40 FAR – BALANCE SHEET

	Year	2020	2021	2022	2023	2024	2029	2034	2039	2044	2049	2054	2059	2064
	Operations flag	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Balance Sheet														
Equity	INR Mn	246	435	7,060	8,740	10,882	12,155	435	435	435	435	435	435	435
Debt	INR Mn	458	809	809	809	728	323	1	1	1	1	1	1	1
Retained earnings	INR Mn	-	-	(4)	84	353	385	1,221	2,426	3,965	5,937	10,382	16,070	23,345
Accrued opex	INR Mn	-	-	30	33	37	43	57	73	93	118	77	99	126
Deferred tax Asset / Liability	INR Mn													
Outstanding Tax														
Total	INR Mn	704	1,244	7,895	9,666	11,999	12,907	1,714	2,935	4,494	6,491	10,896	16,605	23,908
Net Assets	INR Mn	704	1,244	1,203	1,161	1,119	982	894	805	716	627	538	449	361
WIP	INR Mn													
Debtors	INR Mn	-	-	7	13	16	31	51	65	82	105	134	171	219
Cash and Cash equivalent	INR Mn	-	-	6,686	8,492	10,864	11,893	770	2,065	3,696	5,759	10,223	15,984	23,328
Total	INR Mn	704	1,244	7,895	9,666	11,999	12,907	1,714	2,935	4,494	6,491	10,896	16,605	23,908

40 FAR – PROFIT & LOSS ACCOUNT

			Year	2020	2021	2022	2023	2024	2029	2034	2039	2044	2049	2054	2059	2064
			Operations flag	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Profit and loss account																
Revenue	INR Mn	92,486		-	-	869	1,083	1,474	867	1,337	1,706	2,178	2,779	3,393	4,330	5,526
Cost	INR Mn	30,380		-	-	309	339	375	439	583	744	950	1,213	793	1,013	1,292
Revenue share	36%	33,165		-	-	442	509	633	274	423	540	689	879	1,073	1,370	1,748
Upfront premium				-	-	167	167	167	-	-	-	-	-	-	-	-
Annual concession fee				-	-	-	-	-	-	-	-	-	-	-	-	-
% of gross revenues				-	-	275	343	466	274	423	540	689	879	1,073	1,370	1,748
EBITDA Margin				0%	0%	14%	22%	32%	18%	25%	25%	25%	25%	45%	45%	45%
EBITDA	INR Mn	32,354		-	-	119	235	466	154	331	422	539	688	1,526	1,948	2,486
Depreciation	INR Mn	(848)		-	-	(42)	(42)	(42)	(18)	(18)	(18)	(18)	(18)	(18)	(18)	(18)
EBIT	INR Mn			-	-	77	193	425	136	313	404	521	670	1,508	1,930	2,468
Interest cost	INR Mn			-	-	81	81	77	36	-	-	-	-	-	-	-
EBT	INR Mn			-	-	(4)	112	348	99	313	404	521	670	1,508	1,930	2,468
Tax	INR Mn			-	-	-	(24)	(79)	(21)	(105)	(139)	(182)	(235)	(529)	(678)	(866)
PAT	INR Mn			-	-	(4)	88	268	78	208	265	339	434	979	1,252	1,602

40 FAR – CASH FLOW STATEMENT

		Year	2021	2022	2023	2024	2029	2034	2039	2044	2049	2054	2059	2064
		Operations flag	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Cash Flow Statement														
Net income	INR Mn		-	(4)	88	268	78	208	265	339	434	979	1,252	1,602
Depreciation	INR Mn		-	42	42	42	18	18	18	18	18	18	18	18
Change in working capital	INR Mn		-	24	(4)	1	(1)	0	0	0	1	(3)	(3)	(4)
Cash flow from operations	INR Mn		-	61	126	311	95	226	283	357	453	994	1,267	1,615
Capital expenditure	INR Mn		540	-	-	-	-	-	-	-	-	-	-	-
Cash flow from investing act	INR Mn		(540)	-	-	-	-	-	-	-	-	-	-	-
Equity drawdown	INR Mn		189	6,625	1,679	2,142	-	(11,720)	-	-	-	-	-	-
Lumpsum payment (grant)	INR Mn		-	-	-	-	-	-	-	-	-	-	-	-
Senior debt drawdown	INR Mn		351	-	-	-	-	-	-	-	-	-	-	-
Senior debt repayments	INR Mn		-	-	-	(81)	(81)	-	-	-	-	-	-	-
Cash flow from financing act	INR Mn		540	6,625	1,679	2,061	(81)	(11,720)	-	-	-	-	-	-
Net increase/ (decrease) in c	INR Mn		-	6,686	1,806	2,372	14	(11,494)	283	357	453	994	1,267	1,615
Opening balance of cash	INR Mn		-	-	6,686	8,492	11,879	12,264	1,782	3,338	5,306	9,230	14,718	21,713
Cash and bank balance	INR Mn		-	6,686	8,492	10,864	11,893	770	2,065	3,696	5,759	10,223	15,984	23,328

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