



# Profile of the Training and Training Support Facilities for the Indonesia Wheelchair Basketball National Team

Muhammad Rizky Ramadhan<sup>(✉)</sup>, Baskoro Nugroho Putro, Sri Santoso Sabarini, Rony Syaifullah, Sapta Kunta Purnama, and Islahuzzaman Nuryadin

Faculty of Sports, Universitas Sebelas Maret, Surakarta, Indonesia  
gogoye464@student.uns.ac.id, {baskoro.np, srisantoso, ronysyaifullah, saptakunta, mase.ior2004}@staff.uns.ac.id

**Abstract.** This study aims to determine the training and training support facilities for the Indonesian National Wheelchair Basketball Team. The facilities required by the Indonesian National Wheelchair Basketball Team are different from ordinary basketball. This research uses observation and documentation methods. The training support facilities that they have are hotels that can be accessed by wheelchair users, portable scoreboards, statistical software, daily wheelchairs and shuttle vehicles that do not meet the standards for wheelchair users. The training facilities that they have are indoor field, gym, match wheelchair, size 7 basketball, and cones. The training and training support facilities owned by the Indonesian Wheelchair Basketball National Team require special attention, especially in the athlete's transportation section. In other aspects, it can be said that it meets the minimum standards.

**Keywords:** wheelchair · basketball · facilities · disabilities

## 1 Introduction

Sport and its facilities are an integral part in the world of achievement sports [1]. The availability of sports facilities in a country affects the smooth development and preparation of achievement sports [2]. Training and training support facilities are an important aspect of running a training center. Facilities for disabled sports are different from conventional sports facilities. Disability sports require different access and security as some athletes must use a wheelchair. Sports facilities must be adaptive for all users [3].

The consistency of training depends on the location of the field used for training. The indoor court supports a team to be able to consistently practice in any weather [4]. The consistency of training is very important in the national category team training camp. The smooth running of the training program can be ensured when the training field is always available without being disturbed by the weather. Athletes of the national team have a target number of training hours that are more than athletes at lower levels. Therefore, the indoor field is something that must be fulfilled.

The equipment used in training is as far as possible the same as the equipment used for competition [5]. Athletes must adapt well to the sports equipment used in the competition. It is important for athletes to know the characteristics of the match ball. By using the same ball, the athlete can be said to have simulated the match in every exercise. Sports facilities must consider the quality so that they are not easily damaged when used [6]. Quality is also something that must be considered. The training camp consumes a large budget, so it is very important to get quality goods so that the smooth process of the training process can be ensured until the training camp ends.

The fulfillment of sports facilities is adjusted to the characteristics, needs and objectives of the training center [7]. Not all facilities can be used for training camps. Some sports facilities only function to serve groups of people or communities in physical activities [8]. The training center for teams that do not yet have a training center must consider the privacy aspect. Rented training ground must have limited access [9]. Provision of facilities must also pay attention to aspects of care. It is necessary to find out whether the manager of the facility that will be used performs periodic maintenance [10]. Managers must also ensure that they are professional in their fields and can meet the needs in the field during the training camp process [11].

## **2 Method**

Research is survey research. Researchers recorded training and training support facilities for Indonesian national wheelchair basketball athletes. This research was conducted during the wheelchair basketball national team training camp. The study used a check list instrument.

## **3 Result**

### **3.1 Training Court**

The wheelchair basketball national team exercise was held on the Solo Sehat basketball court during the training camp. The field used for the training camp has met the standard in terms of size. The disadvantage of the Solo Sehat basketball court is that the floor of the field does not use parquet material. The impact of a court floor that does not meet the standards is the possibility of bruising when falling and causing the wheels to wear out faster (Fig. 1).

Another advantage of the Solo Sehat basketball court is that the ring support poles have bearings. These pads serve to provide security to the athlete if forced to hit the ring support pole. The management of Solo Sehat also provides a special location for storing match wheelchairs and other tools used for training. The location of Solo Sehat basketball court only 5 min from a national standard hospital. This makes the Solo Sehat basketball court the most strategic location to choose from, even though it does not yet have a parquet-based floor.



**Fig. 1.** Training court for camp



**Fig. 2.** Molten BG4500

### **3.2 Ball, Cone, Portable Scoreboard**

The basketball used during practice is a Molten BG4500 ball. The ball is also the ball used in the ASEAN Paragames 11<sup>th</sup>. The ratio of the ball to the athlete is 1:1. Athletes do not need to wait to use the ball alternately and get optimal movement repetitions. Details of the size of the ball used are 75–78 cm in diameter, weigh 600–650 g and have a pressure of around 4.26–4.61 psi (Fig. 2).

The wheelchair basketball national team also has cones for use in practice. The number of cones owned is 50 pieces. The size of the cone that is owned is 70 cm high with a 34 × 34 cm wide base. Cones are used to assist athletes in practicing wheelchair skills. Cones also make it easier for athletes to simulate the opponent's position when competing (Fig. 3).

The team also has a portable scoreboard that is used for simulated matches. The portable scoreboard that is used helps athletes in carrying out match simulations that are close to reality. The features on the scoreboard are timer, score, foul and quarter (Fig. 4).

### **3.3 Match Wheelchair**

This chair is a chair used by athletes to do exercise, made with a special steel material and a light weight to make it easier for athletes to move during exercise, this chair is adjusted to the classification of athletes so that athletes cannot exchange wheelchairs, play chairs also adjusted for points of disability. For spokes on the wheels use spokes



**Fig. 3.** Cones that used in practice



**Fig. 4.** Portable Scoreboard



**Fig. 5.** Match Wheelchair

made of fiber but strong. Each must have a bumper. The distance between the floor and the bumper must be 11 cm. The seat component consists of 2 large wheels and several casters. For large wheels, the maximum diameter is 69 cm and must have hand support. The maximum accent height for classification 3.5–4.5 is 58 cm and for classification 1.0–3.0 is 63 cm from the floor. Players may have padding in accents of up to 10 cm except for players rated 3.0 or higher, who have a maximum of 5 cm. Black tires, steering gear and brakes are prohibited. Black tires are prohibited because they are invisible, and usually red tires are used. Each tire type/size has a spare tire available in the field. In the wheelchair national team, all playing chairs used have met the standards that apply at the IWBF (Fig. 5).



**Fig. 6.** Hotel for athletes

### **3.4 Accommodation**

The accommodation used during the athletes' training camp is the Sahid Jaya Hotel. Hotel Sahid Jaya is a hotel with four star facilities. Hotel Sahid Jaya also has wheelchair-friendly facilities. The services at Hotel Sahid Jaya are swimming pool and gym. Athletes can use the swimming pool for recovery and do weight training at the hotel gym. Hotel Sahid Jaya is also close to the National Standard Hospital (10 min away) and the Provincial Central Hospital (20 min away). In terms of food, Sahid Jaya Hotel also undertakes to provide nutritious food in accordance with the advice of nutritionists (Fig. 6).

### **3.5 Daily Wheelchair**

The competitive wheelchair cannot be used for daily use. Although the competitive wheelchair is easier and lighter to use. Racing wheelchair wheels are specially designed for use only on flat surfaces. Daily wheelchairs are more capable of traversing a wide variety of surfaces than competitive wheelchairs. Daily wheelchairs also require maintenance costs that are not too expensive. Daily wheelchairs use different materials and types of wheelchairs than competing wheelchairs. Some athletes do not use wheelchairs daily, but use crutches (according to their respective abilities and disabilities). Daily wheelchairs are generally heavier than competitive wheelchairs (Fig. 7).

### **3.6 Match Statistic Software**

The coaching team is equipped with match statistics software to make it easier to analyze the development of match-related training results. The software helps coaches to describe athletes' abilities more easily. Shot accuracy, number of turnovers, number of rebounds, total points, and minutes played can be recorded using match statistics software. It's just that, the number of coaching teams that are less makes the use of software not optimal. A special person is needed to handle the software so that the coaching team is not burdened with operating problems (Fig. 8).



Fig. 7. Daily Wheelchair

Coach: Fajar BRILLIANTO  
Assistant Coach(es): Nuruz ZAMAN, Arifian Tommy KURNIAWAN

INDONESIA (INA)																							
No	Name	SC	Min	Field Goals		2 Points		3 Points		Free Throws		Rebounds		AS	TO	ST	BS	Fouls PF	+/-	EF	PTS		
				MA	%	MA	%	MA	%	MA	%	OR	DR									TOT	
4	Yulianto YULIANTO	2.0	02:18	0/0	0.0	0/0	0.0	0/0	0.0	0/0	0.0	0	1	1	0	0	0	0	0	0	1	0	
5	Jaka SRIYANA	2.0	DNP																				
*6	Danu KUSWANTORO	3.0	15:00	0/4	0.0	0/4	0.0	0/0	0.0	1/2	50.0	1	1	2	1	3	1	0	0	1	-13	-3	1
11	Kasip AYATULLOH	3.5	06:20	3/4	75.0	3/4	75.0	0/0	0.0	0/0	0.0	1	2	3	1	0	0	0	1	0	4	9	6
14	I Komang SUPARTA	4.0	11:32	4/10	40.0	4/10	40.0	0/0	0.0	0/0	0.0	4	4	8	2	0	1	0	0	1	3	13	8
16	Riduwan PURBA	1.0	05:33	0/0	0.0	0/0	0.0	0/0	0.0	0/2	0.0	0	0	0	0	0	0	0	1	1	7	-2	0
*19	Lalu IDRUS	4.0	12:44	0/5	0.0	0/5	0.0	0/0	0.0	0/0	0.0	3	1	4	1	1	0	0	0	1	-8	-1	0
*23	Kebut Gele Nesa JATIANA(C)	4.5	12:24	2/7	28.6	2/6	33.3	0/1	0.0	1/3	33.3	1	3	4	0	1	0	0	0	2	-7	1	5
*42	ho SHARDY	1.0	18:24	0/2	0.0	0/2	0.0	0/0	0.0	0/0	0.0	0	3	3	0	0	0	0	0	0	-5	1	0
*99	Denih DENIH	1.0	13:45	0/3	0.0	0/3	0.0	0/0	0.0	0/0	0.0	1	0	1	0	5	1	0	2	0	-16	-6	0
Team/Coach												1	0	1	1	1	0						
Totals		100.00	9:35	25.7	9/34	26.5	0/1	0.0	2/7	28.6	12	15	27	5	11	3	0	4	6	-7	-13	20	

  

	THA	INA		THA	INA
Points from Turnovers	6	2	Biggest Lead	17 (21-4)	0 (0-0)
Points in the Paint	20 (10/20) 50.0	16 (8/21) 38.1	Biggest Scoring Run	13 (17-2)	6 (21-10)
Second Chance Points	4	7	Lead Changes	1	0
Fast Break Points	4	2	Times Tied	0	0
Bench Points	6	14	Time with Lead	19:56	0:00:00

Fig. 8. Statistic result

## 4 Discussion

Facilities to compete can be said to be the main thing that must be provided for undergoing training camps. Exercises can still be carried out within minimal limits even though there are no resident facilities. The field and the ball are the minimum things that must be in place for the exercise to continue. The wheelchair basketball national team has received adequate training facilities and training support services.

The field used for training has the potential to more easily injure athletes. The size of the court and basketball hoop has met the standards and in accordance with the regulations used. The surface of the practice field uses cast material, a material that is harder than parquet. To minimize injuries, the coach has given enough time to get to know the characteristics of the field so that athletes can get to know the field better. Athletes also use arm and knee pads to prevent bruising when they fall.

Athletes are also trained in wheelchair skills intensively to reduce the likelihood of falling from a wheelchair and learn to fall down in a way that minimizes injury. The wheelchair skill training is assisted by the placement of cones that resemble the composition of the opposing players which must be avoided. The cone owned by the wheelchair basketball national team has an ideal height for use as an obstacle. With a height of 70 cm the athlete is helped to get a simulation of passing the opponent. The large number of cones also helps make it easier for the coaching team to make drills related to wheelchair skill development.

The tools most used for practice are the same as the standard match tools. Athletes will be familiar with the characteristics of these tools. The match balls and wheelchairs used by the team have met the match standards, even for the same balls used in matches. Training using a ball that is different from the match ball makes athletes have to reset their understanding of the characteristics of the ball. For wheelchairs, athletes are allowed to use private wheelchairs as long as they meet the regulatory standards set by the IWBF. The seats used by athletes are special wheelchairs that meet the IWBF regulations.

The athlete's comfort factor during the training camp is an important factor in maintaining the training mood. The fulfillment of daily needs must be considered when undergoing training camps. The hotel where the athlete stays has 4-star facilities. With the 4-star hotel category, it is certain that athletes get maximum service when resting. Athletes' daily activities are also supported by comfortable daily wheelchairs. The hotel where to stay is also wheelchair user friendly.

## 5 Conclusion

The wheelchair basketball national team gets proper facilities, both for training and training support. Comfortable lodging with 4-star hotel facilities makes athletes comfortable to rest after undergoing training. Complete hotel services, ranging from food services according to the request of nutritionists, to recovery and weight training facilities. Another facility is a tool that complies with IWBF standards. Athletes are accustomed to using balls, wheelchairs and statistical counters used in competitions. Athletes have the advantage of adapting for a sufficient period of time to standard equipment. However, there are some major drawbacks on the training ground. The practice court floor used is not match standard so athletes should be given time to try out the match venue early to get used to different court surfaces.

**Acknowledgment.** The authors would like to thank Universitas Sebelas Maret for the full funding.

## References

1. R. Torsing, K. Oosterman, J. Bakker, M. Hinssen, I. Bosveld, and T. Huijsmans, "The Shaded Dome<sup>TM</sup>: A Smart, Cool & Adaptable Facility for Sport Venues," *Procedia Eng.*, vol. 147, pp. 848–853, 2016, doi: <https://doi.org/10.1016/j.proeng.2016.06.292>.
2. K. Rafoss and J. Troelsen, "Sports facilities for all? the financing, distribution and use of sports facilities in Scandinavian countries," *Sport Soc.*, vol. 13, no. 4, pp. 643–656, 2010, doi: <https://doi.org/10.1080/17430431003616399>.
3. M. Hudec and L. Rollová, "Adaptability in the Architecture of Sport Facilities," *Procedia Eng.*, vol. 161, pp. 1393–1397, 2016, doi: <https://doi.org/10.1016/j.proeng.2016.08.599>.
4. M. S. Grande and G. Cao, "Air quality in sport facilities," *E3S Web Conf.*, vol. 111, no. 2019, 2019, doi: <https://doi.org/10.1051/e3sconf/201911102023>.
5. M. Bäckström, P. Carlsson, J. Danvind, A. Koptuyug, D. Sundström, and M. Tinnsten, "A New Wind Tunnel Facility Dedicated to Sports Technology Research and Development," *Procedia Eng.*, vol. 147, pp. 62–67, 2016, doi: <https://doi.org/10.1016/j.proeng.2016.06.190>.

6. C. Mallen and C. Chard, “‘What could be’ in Canadian sport facility environmental sustainability,” *Sport Manag. Rev.*, vol. 15, no. 2, pp. 230–243, 2012, doi: <https://doi.org/10.1016/j.smr.2011.10.001>.
7. A. Sretenka Dugalić, Krsteska, “Challenges of Sports Facilities and Projects Management in the XXI Century CHALLENGES OF SPORTS FACILITIES AND PROJECTS MANAGEMENT,” *Sport. Sci. Pract.*, no. January 2013, 2015.
8. M. Kang and Y. Lee, “The Gap in Community Sports: Utilization of Sports Facilities in South Korea,” *Int. J. Environ. Res. Public Health*, vol. 19, no. 8, 2022, doi: <https://doi.org/10.3390/ijerph19084495>.
9. P. Pinheiro and L. Cavique, “Regular sports services: Dataset of demographic, frequency and service level agreement,” *Data Br.*, vol. 36, p. 107054, 2021, doi: <https://doi.org/10.1016/j.dib.2021.107054>.
10. K. Elmoose-Østerlund and E. B. Iversen, “Do public subsidies and facility coverage matter for voluntary sports clubs?,” *Sport Manag. Rev.*, vol. 23, no. 2, pp. 315–329, 2020, doi: <https://doi.org/10.1016/j.smr.2019.03.007>.
11. T. B. Kellison and M. J. Mondello, “Organisational perception management in sport: The use of corporate pro-environmental behaviour for desired facility referenda outcomes,” *Sport Manag. Rev.*, vol. 15, no. 4, pp. 500–512, 2012, doi: <https://doi.org/10.1016/j.smr.2012.01.005>.

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