



# Community Sports Participation and Its Distribution in East Java

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**Abstract.** The purpose of this study was to determine the level of sports participation of the people of East Java and its distribution in 2022. This study is survey research with a quantitative approach and using a cross sectional design. A total of 25945 people from East Java were used as respondents for this research by using snowball sampling technique. Data was collected using a questionnaire to determine the level of participation in sports in East Java. Data on the distribution of sports in East Java was obtained from filling out questionnaires from 38 cities/regencies in East Java which were divided into 5 Regional Coordinating Agency (Bakorwil). The results showed that the percentage of sports participation in East Java is still low below 1% and the highest participation in rhythmic gymnastics was in Bakorwil 1, 3 and 5 with a percentage of 35,61%, 47,80% and 30,45%, respectively, while soccer was the highest in Bakorwil 2 with a percentage of 31,39% and badminton was the highest in Bakorwil 4 with a percentage of 20,87%. The conclusion is sports participation in East Java is still low and aerobics gymnastics is the most popular community sport in East Java in 2022.

**Keywords:** Sport participation · Sport Distribution · Sport in East Java

## 1 Introduction

Development is a planned and programmed effort that is carried out continuously in order to maintain and improve the standard of human life both physically and mentally [1]. Development is carried out in all areas, including in the realm of sports. In sports development, the results that have been achieved are the formulation of policy concepts that support the development of national sports and guidelines for the mechanism for developing sports and physical fitness, with the drafting of a Sports Law to support the development of national sports, and the formulation of the Sport Development Index (SDI) [2]. Due to the current position of sport has been considered important because it has high competence in influencing the success of the development of other sectors, especially those related to improving the quality of human resources and people's lives [3].

The Sport Development Index is a measure of sports development that has been studied and implemented in Indonesia in 2003–2007 [4]. Initially, SDI consisted of four

dimensions, namely human resources, open space, participation, and fitness. However, after going through a review process by taking into account the results of the literature review and various empirical evidences and maintaining the existing four dimensions, now five new dimensions have been added, namely physical literacy, personal development, economy, health, and performance [5]. Thus, SDI currently has nine dimensions. The dimension of participation in SDI is the first output of sports development. If the number of sports participation increases, it can have a double effect on other dimensions, such as physical fitness, health, personal development, psychological well-being, and economy [6].

An understanding of the function of sport to develop human capital is very important to dispel the doubts that have so far occurred about fragmentary national discourses such as warnings that are not paid too much attention to the high prevalence of non-communicable diseases, such as type 2 diabetes mellitus, heart disease, and hypertension [6]. This is due to unhealthy and unbalanced consumption patterns [7] and this is exacerbated by the low level of participation in sports [8]. Therefore, the importance of increasing community participation in sports and physical activity is important for developing countries such as Indonesia, especially for health purposes [9]. It is known that one's participation in physical activity can assist in the prevention and/or treatment of chronic and degenerative diseases associated with aging, such as hypertension, arthritis, type diabetes, and cardiovascular disorders [10, 11].

## 2 Methods

This research is survey research with a quantitative approach. The research design used a cross sectional design, because data collection was done once [12]. A total of 25945 people from East Java were used as respondents for this research by using snowball sampling technique [13]. Data was collected using a questionnaire to determine the level of participation in sports in East Java. Data on the distribution of sports in East Java was obtained from filling out questionnaires from 38 cities/regencies in East.

Java which was divided into 5 Regional Coordinating Agency (Bakorwil). The data analysis of this research consisted of descriptive analysis in the form of mean data, standard deviation and percentage of sports participation in each region in East Java. The distribution of sports data is also presented in the form of a diagram.

## 3 Results and Discussion

### 3.1 Results

This study uses a total of 167 community sports movers as surveyors who collect data in 5 Regional Coordinating Agencies from 38 cities/districts in East Java in 2022. The surveyors collect data regarding the number of people who actively participate in sports and what types of sports are being practiced. East Java community based on the division of the region. Data on the distribution of surveyors and people who actively participate in sports are described in Table 1.

**Table 1.** The distribution of surveyors and the number of people who actively participate in sports in East Java in 2022

Regional Coordinating Agency	Cities/Districts	Number of surveyor	Number of people actively participating
Bakorwil 1	Madiun City/District	5	546
	Ngawi District	4	804
	Magetan District	4	3425
	Ponorogo District	5	1062
	Pacitan District	3	1033
	Trenggalek District	3	816
	Tulungagung	4	519
	Kediri City/District	8	1555
Bakorwil 2	Tuban District	5	697
	Lamongan District	6	390
	Bojonegoro District	7	890
	Mojokerto City/District	6	95
	Jombang District	5	413
	Nganjuk District	5	514
	Gresik District	4	681
Bakorwil 3	Batu City	2	312
	Malang District	8	221
	Malang City	2	318
	Pasuruan City	2	821
	Pasuruan District	6	811
	Blitar City	2	678
	Blitar District	5	689
	Surabaya City	8	622
	Sidoarjo District	4	1336
Bakorwil 4	Bangkalan District	4	519

*(continued)*

**Table 1.** (continued)

Regional Coordinating Agency	Cities/Districts	Number of surveyor	Number of people actively participating
	Pamekasan District	3	76
	Sampang District	3	1371
	Sumenep District	7	1306
Bakorwil 5	Probolinggo City/District	8	373
	Situbondo District	4	383
	Bondowoso District	6	373
	Lumajang District	5	324
	Jember District	8	699
	Banyuwangi District	6	1273
<b>Total</b>		<b>167</b>	<b>25945</b>

The data above shows the distribution of surveyors in recording community participation rates for exercise in 38 cities/districts in East Java in 2022. East Java community participation in exercising also varies, but the highest percentage is in aerobic exercise. The data are presented in the Fig.1.

### **1. Bakorwil 1**

Bakorwil 1 consists of 10 cities/districts in East Java, namely Madiun District, Madiun City, Ponorogo District, Pacitan District, Ngawi District, Magetan District, Trenggalek District, Tulungagung District, Kediri District, Kediri City. The following presents the data in the table related to the type of sport/physical activity along with the percentage of the number of participants.

The Table 2 shows that there are 14 types of sports/physical activities that are often carried out by the community in Bakorwil 1 in 2022. For more details, see the comparison of the percentage of community sports participation based on the type of sport, can be seen in Fig. 1.

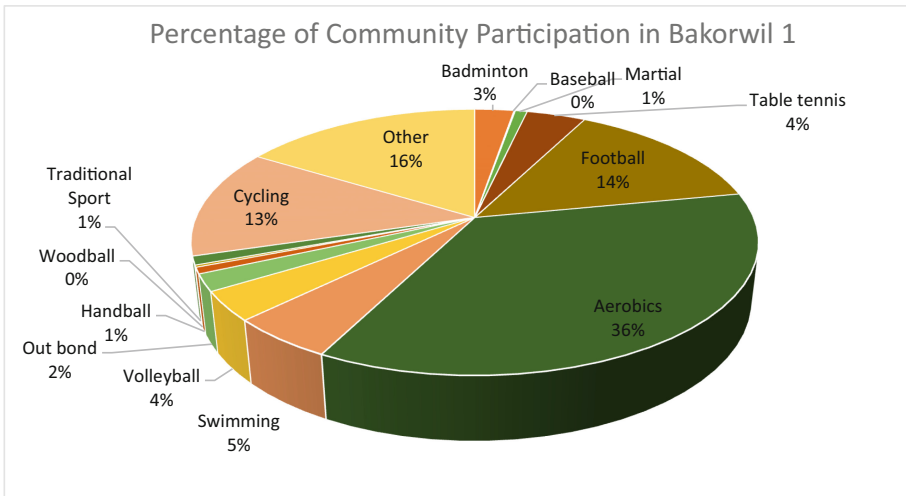
Figure 1 explains that community participation in sports in Bakorwil 1 is dominant in doing aerobic exercise with a participation percentage of 35.61% of the total 9760 people who participate. While the smallest participation was baseball with a percentage of 0.08% of the 9760 people who participated.

### **2. Bakorwil 2**

Bakorwil 2 consists of 8 cities/districts in East Java, namely Bojonegoro District, Tuban

**Table 2.** Types of sports/physical activities of the community in Bakorwil 1

Type of Sport/Physical Activity	Number of Participants	Percentage (%)
Badminton	261	2.67
Baseball	8	0.08
Martial	79	0.81
Table tennis	392	4.02
Football	1403	14.38
Aerobics	3476	35.61
Swimming	503	5.15
Volleyball	347	3.56
Out bond	201	2.06
Handball	75	0.77
Woodball	24	0.25
Traditional Sport	102	1.05
Cycling	1298	13.30
Other	1591	16.30
Total	9760	100

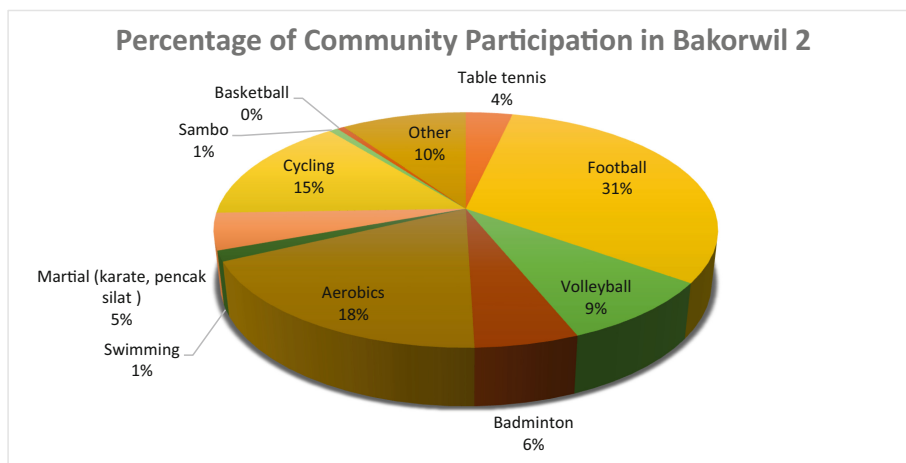


**Fig. 1.** Percentage of community participation in sports in Bakorwil 1.

District, Lamongan District, Gresik District, Nganjuk District, Jombang District, Mojokerto District, Mojokerto City. The following presents the data in the table related to the type of sport/physical activity along with the percentage of the number of participants.

**Table 3.** Types of sports/physical activities of the people in Bakorwil 2

Type of Sport/Physical Activity	Number of Participants	Percentage (%)
Table tennis	131	3.56
Football	1155	31.39
Volley ball	329	8.94
Badminton	208	5.65
Aerobics	678	18.42
Swimming	53	1.44
Martial (karate, pencak silat)	186	5.05
Cycling	543	14.76
Sambo	25	0.68
Basketball	20	0.54
Other	352	9.57
Total	3680	100

**Fig. 2.** Percentage of community participation in sports in Bakorwil 2.

The Table 3 shows that there are 11 types of sports/physical activities that are often carried out by the community in Bakorwil 2 in 2022. A comparison of the percentage of community sports participation based on the type of sport is presented in Fig. 2.

Based on Fig. 2, it can be seen that community participation in sports in Bakorwil 2 is dominant in soccer with a participation percentage of 31.39% of the total 3680 people

**Table 4.** Types of sports/physical activities of the people in Bakorwil 3

Type of Sport/Physical Activity	Number of Participants	Percentage (%)
Aerobics	2776	47.80
Volley ball	525	9.04
Football	523	9.00
Futsal	359	6.18
Basketball	149	2.57
Badminton	122	2.10
Running	161	2.77
Yoga	193	3.32
Other	1000	17.22
Total	5808	100

who participated. While the smallest participation was basketball with a percentage of 0.54% of the 3680 people who participated.

### 3. *Bakorwil 3*

Bakorwil 3 consists of 9 cities/districts in East Java, namely Malang District, Malang City, Batu City, Blitar District, Blitar City, Pasuruan District, Pasuruan City, Sidoarjo District, Surabaya City. The following presents the data in the table related to the type of sport/physical activity along with the percentage of the number of participants.

The Table 4 shows that there are 9 types of sports/physical activities that are often carried out by the community in Bakorwil 3 in 2022. To see a comparison of the percentage of community sports participation based on the type of sport, see Fig. 3.

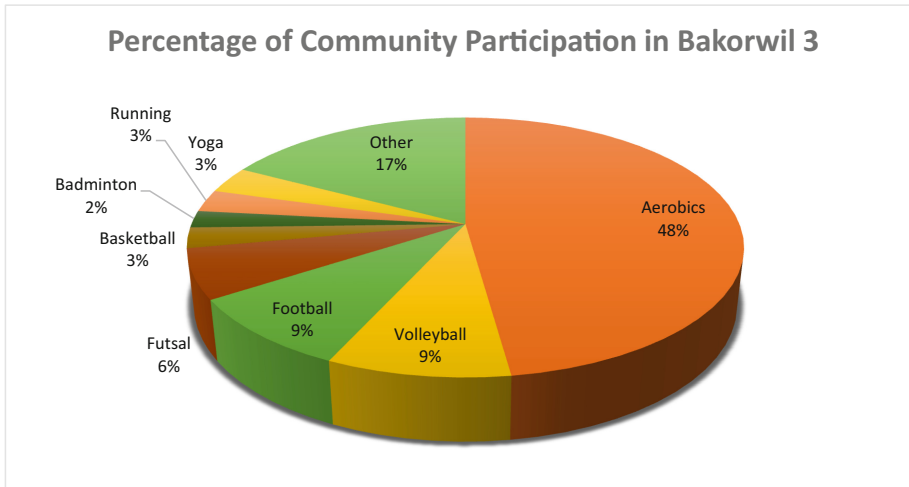
Based on Fig. 3, it can be seen that community participation in exercising in Bakorwil 3 is dominant in doing aerobic exercise with a participation percentage of 47.80% of the total 5808 people who participated. While the smallest participation was badminton with a percentage of 2.1% of the 5808 people who participated.

### 4. *Bakorwil 4*

Bakorwil 4 consists of 4 cities/districts in East Java, namely Bangkalan District, Sampang District, Pamekasan District, Sumenep District. The following presents the data in the table related to the type of sport/physical activity along with the percentage of the number of participants.

The Table 5 shows that there are 9 types of sports/physical activities that are often carried out by the community in Bakorwil 4 in 2022. To see a comparison of the percentage of community sports participation based on the type of sport, see Fig. 4.

Figure 4 shows the highest percentage of badminton participation in Bakorwil 4 with a participation percentage of 20.87% out of a total of 3272 people who participated. While



**Fig. 3.** Percentage of community participation in sports in Bakorwil 3.

**Table 5.** Types of sports/physical activities of the people in Bakorwil 4

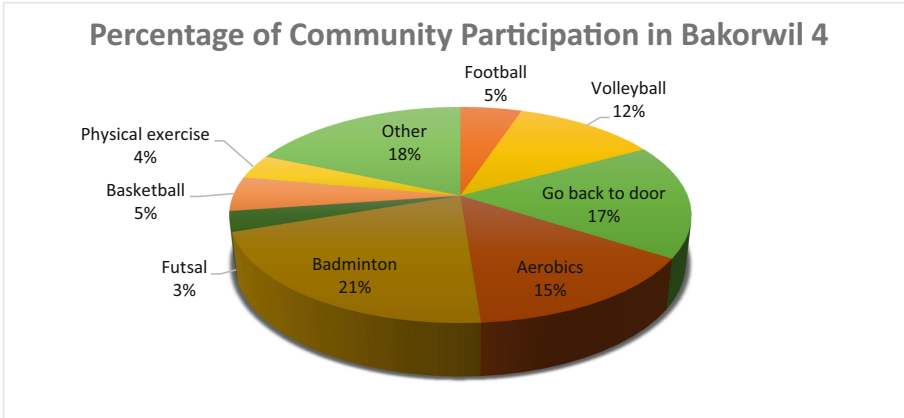
Type of Sport/Physical Activity	Number of Participants	Percentage (%)
Football	167	5.10
Volleyball	390	11.92
Go back to door	560	17.11
Aerobics	480	14.67
Badminton	683	20.87
Futsal	99	3.03
Basketball	169	5.17
Physical exercise	120	3.67
Other	604	18.46
Total	3272	100

the smallest participation was futsal with a percentage of 3.03% of the 3272 people who participated.

### 5. *Bakorwil 5*

Bakorwil 5 consists of 7 cities/regencies in East Java, namely Probolinggo District, Probolinggo City, Lumajang District, Jember District, Bondowoso District, Situbondo District, Banyuwangi District. The following presents the data in the table related to the type of sport/physical activity along with the percentage of the number of participants.





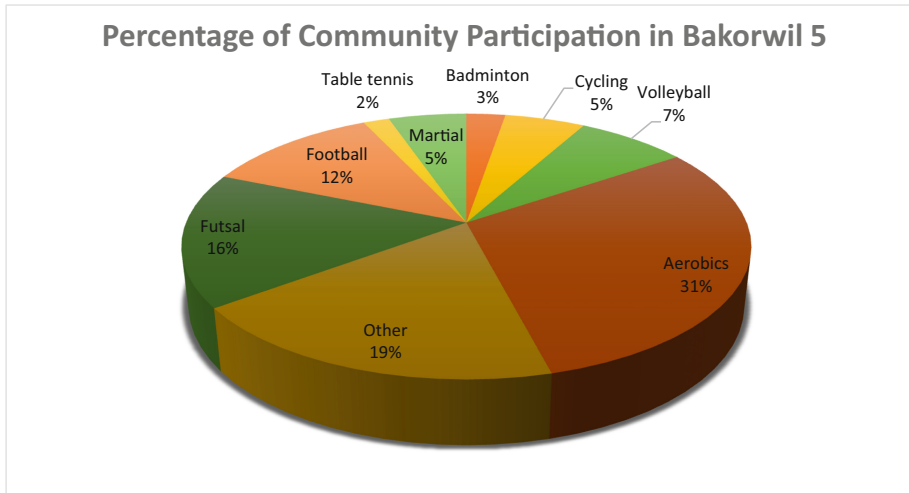
**Fig. 4.** Percentage of community participation in sports in Bakorwil 4.

**Table 6.** Types of sports/physical activities of the people in Bakorwil 5

Type of Sport/Physical Activity	Number of Participants	Percentage (%)
Badminton	90	2.63
Cycling	186	5.43
Volleyball	255	7.45
Aerobics	1043	30.45
Other	647	18.89
Futsal	561	16.38
Football	403	11.77
Table tennis	60	1.75
Martial	180	5.26
Total	3425	100

The Table 6 shows that there are 9 types of sports/physical activities that are often carried out by the community in Bakorwil 5 in 2022. To see a comparison of the percentage of community sports participation based on the type of sport, see Fig. 5.

From Fig. 5, it can be seen that aerobic exercise is the dominant sport in Bakorwil 5 with a community participation percentage of 30.45% of the total 3425 people participating. While the smallest participation was table tennis with a percentage of 1.75% of the 3425 people who participated.



**Fig. 5.** Percentage of community participation in sports in Bakorwil 5.

### 3.2 Discussion

This study has obtained data on 25945 people of East Java who actively participate in sports activities. When compared with the total number of East Java people of all ages in 2022 which amounted to 41149974, it is only 0.06% (BPS Province of East Java, 2022). This indicates that the number of sports participation in East Java is still low.

From Bakorwil 1 which consists of 10 cities/regencies in East Java, namely Madiun District, Madiun City, Ponorogo District, Pacitan District, Ngawi District, Magetan District, Trenggalek District, Tulungagung District, Kediri District, Kediri City, it was found that aerobic exercise is the most widely practiced sport activity by people living in the Bakorwil 1 area. This is because aerobic gymnastics is a popular public sport and can be done by all age groups, both early age, teenagers and the elderly [13]. However, when viewed from the number of participation in Bakorwil 1 which was opened only 9760 people and compared to the number of people living in Bakorwil 1 area who visited 7860245, the proportion of community sports participation in Bakorwil 1 area is 0.12% [14]. This result also shows a low participation rate.

In Bakorwil 2 there are 8 cities/districts, namely Bojonegoro District, Tuban District, Lamongan District, Gresik District, Nganjuk District, Jombang District, Mojokerto District, Mojokerto City. The highest percentage of participation in soccer with a percentage value of 31.39%. Football is indeed the most popular sport in the world [15]. The comparison of the total population of Bakorwil 2 which is 8949780 people with the number of people participating in sports which is 3680, the percentage value is 0.04% [14]. This percentage value is also a low value.

In Bakorwil 3, there are 9 cities/districts in East Java, namely Malang District, Malang City, Batu City, Blitar District, Blitar City, Pasuruan District, Pasuruan City, Sidoarjo District, Surabaya City. Aerobic gymnastics is also the sport most often done by the Bakorwil 3 community with a participation percentage of 47.80% of the 5808 population. Aerobic gymnastics is a sport that is easy to do and fun for all age groups

[16]. If you look at the percentage of participation from the total population, in Bakorwil 3 which amounted to 11750702 and the number of participations amounted to 5808, the percentage was 0.05% [14]. This percentage of participation is a low value.

Bakorwil 4 consists of 8 cities/districts in East Java, namely Bangkalan District, Sampang District, Pamekasan District, Sumenep District with a population of 4,065,232 in 2022 and it is known that the number of sports participations is 3,272. From these data, it can be seen that the participation rate in Bakorwil 4 is 0.08%. This value indicates that the level of sports participation in Bakorwil 4 is still low. In Bakorwil 4, the most popular sport is badminton. Badminton is one of the most popular and favored sports in Indonesia [17]. The participation of badminton in Indonesia is relatively high, and has a very good development [18]. Badminton also has a positive effect on physical health, particularly in improving heart and lung function, as well as on the development of basic physical capacities [19].

Bakorwil 5 consists of 7 cities/regencies in East Java, namely Probolinggo District, Probolinggo City, Lumajang District, Jember District, Bondowoso District, Situbondo District, Banyuwangi District. The total population in Bakorwil 5 is 8,312,518, while the number of participations is 3,425. So that the sports participation rate in Bakorwil 5 is 0.04%. These results indicate that people in Bakorwil 5 have a low level of sports participation. In addition, it is known that the type of physical activity most favored by the Bakorwil 5 community is aerobic gymnastic. Aerobic gymnastics is known to have many positive benefits, one of which is to improve one's physical fitness [20]. Aerobic gymnastic has a positive effect on body image and health perceptions in adolescent girls [21] and also can significantly reduce body mass index and thigh circumference in women gradually [22].

## 4 Conclusion

The percentage value of the overall sports participation of the people of East Java is still very low, below 1% of the total population. The most common type of exercise is aerobic exercise.

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