Sports Development Reviewed by SDI to Improve The Quality of Physical Education With Conservation Character

I. INTRODUCTION

Based on [1] suggests that physical education is a whole aspect of education, but behind it is all a big problem that haunts physical education learning if it is not sought the right solution to improve Quality of physical education.

Physical Education in Indonesia is currently in a condition of concern for the effectiveness of physical learning in the school coupled with a low knowledge of the importance of physical education learning that has not been socialized early. In fact, education is able to produce superior human resources that can then bring the country to a better direction. Therefore the need to improve the quality of physical education as an integral part in the process of improving the sport development in Indonesia.

The benchmark of sports development used by policy makers in the past always refers to the achievement of certain sports, with the acquisition of Champions or. According to [2] It says that the size is manipulative. Because of the possible medals gained in the can through the ways are not elegant. An area that earns the most medals in the match, can not be said that the area in question advanced the sport. By not abandoning the winning medal benchmark as a way of looking at the successful construction of sports achievements, the indicators of success.

Through an assessment of the sports development index known as the Sport Development Index (SDI), the progress of sports development in an area can be seen in four aspects, first is the participation of the community, which shows indicators Active involvement of a regional community on sports activities, second is an open space owned by an area accessible for community sports activities, third is the level of Community physical fitness, and the fourth is Human resource sportsmen owned and can be used by an area to advance the sport in the area. The assessment effort to measure the progress of sports development needs to be done in each area or city to know more accurately the magnitude of the sport development index value. These four aspects have been aligned with the scope of the sport listed in LAW No. 3 of 2005 on the national Sports system in chapter VI of article 17 which include educational sports, recreational sports, and performance sports, because The protrusion of one pillar alone by ignoring the other pillars will give birth to mere inequality [7].

According to [3] Physical education is part of an overall education that prioritizes physical activity and healthy life coaching for physical, mental, social and developmental growth and development Harmonious, aligned, and balanced emotional.

Central Java is a province located in Java. Its capital is Semarang. Central Java has an area of 32,548 km², with 29 regencies, 6 cities, 534 sub-districts. In the Central Java Sports championships have both national and international areas. Central Java donated 54 athletes in the Sea Games 2018 event Jakarta-Palembang. And it has become a common secret that many central Javanese athletes were purchased to represent regions or provinces outside Central Java. However, in the National Event, Central Java has not been able to become a general champion. Therefore, champions cannot be used as a benchmark in sports development.

Moving on from the above, the researcher aims to make a review on the results of sports development in Central Java,
through evaluation study on the availability of open space for exercise, how high the level of community participation, the number and quality of human resource sportsmen who support the government in advancing and physical fitness level of society in Central Java.

II. MATERIALS AND METHODS

In this study quantitative descriptive methods with survey techniques and fitness tests. Quantitative research methods can be interpreted as a research method based on the philosophy of positivism [4]. Quantitative descriptive research method was chosen because according to the substance and focus in this research, which is a study on the sport Development index in Central Java where the result of the calculation of the sport Development Index is expressed Through indexes whose data offerings are numbers later described. The index will provide operational explanations about the requirements of the minimum Sports service standard as contained in PP RI No 16 years 2007 Article 92 which includes open space for exercising, exercise participation rate, the source of Human Resource sports and community fitness levels in each region.

The research location is conducted in Central Java by taking 16 cities from 35 cities in central Java. It is based on the classification of cities/districts according to Henri Sarwono, Klasen typology which is a fast-paced and fast-growing area (Kab. A., Karanganyar, Kab. Kudus, the city of Semarang), the area was advanced but depressed (Kab. Semarang, Kab. Kendal, Magelang City, Pekalongan), fast growing area (Kab. Purbalingga, Kab. Sragen, Kab. Tegal, Tegal City) and lagging areas (Kab. Banyumas, Kab. Rembang, Kab. Blora, and the city of Pemalang).

Researchers are designing sampling takers with the multistage random sampling method, the basic characteristics of the population to be used is 1) differences in the progress of a region (fast forward, depressed, evolving, and lagging), 2) differences Gender (male and female), 3) Age differences (children, adolescents and adults). The population in this study is the entire area of the city/district and the entire population in Central Java. In sampling areas using regional classification fast forward, advanced depressed, developed and lagged.

Individual data retrieval is used to determine the sample on the participation of physical sports and fitness of society. For individual data in each sub-district obtained from 30 samples taken randomly based on age category. Every city/district is taken 3 sub-districts as samples. It is based on the sampling way on the collection of data on the Sport Development Index. Age category of children (7-14 years), Youth age category (15-24), and adult category (age 25 and above). Each category is sampled 10 people consisting of 5 men and 5 women. So the total number of subjects in each city/district is 30 x 3 Districts/ Kelurahan x 16 Districts/cities. So the total number of subjects or samples used is 1,440 inhabitants.

In this study used area and individual analysis units. The area Analysis unit is used as the basis for open space data collection and human resources, while individual analytical units are used as the basis for the collection of sports participation and fitness level data. Therefore, the statements above the technique or way of collecting data in this study use the following instruments:

1. Observation, data to be collected through observation is secondary data about the area, population, and sports potential as control data, while the primary data is data about open space.
2. Interview, used to explore information from credible speakers as data booster from data that is observed data source in this assessment obtained from source or informant i.e. from existing government related such as Disporarap of Central Java, KONI of Central Java, BPS of Central Java, District/city, district related and other data sources that are considered possible.
3. Questioner, data collected through the poll that is the participation of natural people exercising.
4. Test, to know the physical fitness level of the community in Central Java.

All four of the data collection techniques used have their own instruments. The above data collection instruments will be strengthened by the interviews of some of the interviewees who can be trusted as additional information. Measuring instruments used to collect data have high validity because the measuring instrument used is a patented standard in the Sport Development Index (SDI) listed in the SDI version Questionnaire 2007 SDI KK-OR 2006 [2].

The data analysis methods used in this study are quantitative approaches using SDI analysis of four dimensions. The according to [2] the formula used is as follows.

\[
\text{Indeks} = \frac{NA - NMin}{NMak - NMin}
\]

NA = Actual Value
NMin = Minimum Value
NMak = Maximum Value

The formula for looking for open space sports, sports participation, human exercise and physical fitness alike, which distinguishes is the actual value. The actual value is a real score gained based on a specific benchmark.

<table>
<thead>
<tr>
<th>No.</th>
<th>Actual Value</th>
<th>NMak</th>
<th>NMin</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Open Space</td>
<td>3.5</td>
<td>0</td>
</tr>
<tr>
<td>2.</td>
<td>Participation</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>3.</td>
<td>Human Resources</td>
<td>2.08</td>
<td>0</td>
</tr>
<tr>
<td>4.</td>
<td>Physical Fitness</td>
<td>40.5</td>
<td>20.1</td>
</tr>
</tbody>
</table>

The actual value of community participation in exercise is gained through the measurement of the Rasor among the test takers who conducted the sport activities at least 3 times a week.

The actual value of open space sports is obtained through the calculation of the wide open space ratio of the sport divided by the number of people aged 7 years and above.
The actual value of human resources is derived from the distribution between the number of people sports with a population above 7 years old.

After all index dimensions are successfully found, subsequent calculations are continued with the SDI calculations with the formula as follows:

$$SDI = \frac{1}{4} (\text{Open Space Index}) + \frac{1}{4} (\text{Participation Index}) + \frac{1}{4} (\text{Human Resources Index}) + \frac{1}{4} (\text{Physical Fitness Index})$$

Furthermore, after obtaining the index value, the last stage is to determine the category or norm of the value of the index obtained to give justifications. The SDI norms used are:

### TABLE II. NORMA OF SPORTS DEVELOPMENT INDEX

<table>
<thead>
<tr>
<th>No.</th>
<th>Index Value</th>
<th>Norms/Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>0.800 – 1.000</td>
<td>High</td>
</tr>
<tr>
<td>2.</td>
<td>0.500 – 0.799</td>
<td>Medium</td>
</tr>
<tr>
<td>3.</td>
<td>0.000 – 0.499</td>
<td>Low</td>
</tr>
</tbody>
</table>

### III. RESULTS AND DISCUSSION

Based on the research results known data as follows:

#### TABLE III. ACTUAL VALUE OF COMMUNITY PARTICIPATION

<table>
<thead>
<tr>
<th>No.</th>
<th>Regional classification</th>
<th>Actual value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Advance Area</td>
<td>21.110</td>
</tr>
<tr>
<td>2.</td>
<td>Forward Depressed Area</td>
<td>18.332</td>
</tr>
<tr>
<td>3.</td>
<td>Developing Area</td>
<td>9.166</td>
</tr>
<tr>
<td>4.</td>
<td>Disadvantaged Area</td>
<td>15.277</td>
</tr>
</tbody>
</table>

Source: Research Team

#### TABLE IV. ACTUAL OPEN SPACE VALUE

<table>
<thead>
<tr>
<th>No.</th>
<th>Regional classification</th>
<th>Actual value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Advance Area</td>
<td>2.890</td>
</tr>
<tr>
<td>2.</td>
<td>Forward Depressed Area</td>
<td>0.816</td>
</tr>
<tr>
<td>3.</td>
<td>Developing Area</td>
<td>1.059</td>
</tr>
<tr>
<td>4.</td>
<td>Disadvantaged Area</td>
<td>1.311</td>
</tr>
</tbody>
</table>

Source: Research Team

#### TABLE V. ACTUAL VALUE OF HUMAN RESOURCES

<table>
<thead>
<tr>
<th>No.</th>
<th>Regional classification</th>
<th>Actual value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Advance Area</td>
<td>0.062</td>
</tr>
<tr>
<td>2.</td>
<td>Forward Depressed Area</td>
<td>0.051</td>
</tr>
<tr>
<td>3.</td>
<td>Developing Area</td>
<td>0.001</td>
</tr>
<tr>
<td>4.</td>
<td>Disadvantaged Area</td>
<td>0.0008</td>
</tr>
</tbody>
</table>

Source: Research Team

#### TABLE VI. FITNESS INDEX

<table>
<thead>
<tr>
<th>No.</th>
<th>Regional classification</th>
<th>Actual value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Advance Area</td>
<td>0.312</td>
</tr>
<tr>
<td>2.</td>
<td>Forward Depressed Area</td>
<td>0.169</td>
</tr>
<tr>
<td>3.</td>
<td>Developing Area</td>
<td>0.283</td>
</tr>
<tr>
<td>4.</td>
<td>Disadvantaged Area</td>
<td>0.255</td>
</tr>
</tbody>
</table>

Source: Research Team

1. Community Participation Index

$$\text{Index} = \frac{\text{Actual Value} - NMin}{NMax - NMin}$$

a. Advance Area

$$\text{Index} = \frac{21.110 - 0}{100 - 0} = 0.211$$

b. Forward Depressed Area

$$\text{Index} = \frac{18.332 - 0}{100 - 0} = 0.183$$

c. Developing Area

$$\text{Index} = \frac{9.166 - 0}{100 - 0} = 0.091$$

d. Disadvantaged Area

$$\text{Index} = \frac{15.277 - 0}{100 - 0} = 0.152$$

Average Index:

$$\text{Average} = \frac{(0.211 + 0.183 + 0.091 + 0.152)}{4} = 0.159$$

The dimension of the central Java Community participation Index is 0.159. It can be said that community participation in exercising belongs to the low category.

2. Open Space Index

$$\text{Index} = \frac{\text{Actual Value} - NMin}{NMax - NMin}$$

a. Advance Area

$$\text{Index} = \frac{2.890 - 0}{3.5 - 0} = 0.825$$

b. Forward Depressed Area

$$\text{Index} = \frac{0.816 - 0}{3.5 - 0} = 0.233$$

c. Developing Area

$$\text{Index} = \frac{1.059 - 0}{3.5 - 0} = 0.302$$

d. Disadvantaged Area

$$\text{Index} = \frac{1.311 - 0}{3.5 - 0} = 0.374$$
Average Index :
Average = (0.825 + 0.233 + 0.302 + 0.374) :4
Average = 0.433

So the dimension index value of open space for Sport in Central Java is 0433. Thus it can be said the open space of exercise in exercising belongs to the low category.

3. Human Resources Index

Index = \( \frac{Actual \ Value - NMin}{NMax - NMin} \)

a. Advance Area

Index = \( \frac{0.062 - 0}{2.08 - 0} \)
= 0.029

b. Forward Depressed Area

Index = \( \frac{0.051 - 0}{2.08 - 0} \)
= 0.024

c. Developing Area

Index = \( \frac{0.001 - 0}{2.08 - 0} \)
= 0.0004

d. Daerah Tertinggal = 0.255

Average Index :
Average = (0.312 + 0.169 + 0.283 + 0.255) :4
Average = 0.254

So the value of the physical fitness dimension of the Central Java community is 0.254 thus it can be said that people's physical fitness in Central Java belongs to the low category.

5. Sport Development Index

SDI = \( \frac{1}{4} \) (Open Space Index) + \( \frac{1}{4} \) (Participation Index) + \( \frac{1}{4} \) (Human Resources Index) + \( \frac{1}{4} \) (Physical Fitness Index)

SDI = \( \frac{1}{4} \) (0.159) + \( \frac{1}{4} \) (0.433) + \( \frac{1}{4} \) (0.013) + \( \frac{1}{4} \) (0.254) = 0.277

So the value of SDI in Central Java is 0.277. Thus it can be interpreted that SDI or the level of sports development in Central Java is in low category.

Referring to the result of the calculation and analysis of the sport Development Index, the magnitude of the community participation index in exercise is 0.159 (low), sport open Space Index of 0.433 (low), human resource index of sportsmen of 0.013 (Low), and a physical fitness index of 0.127 (low). Thus, the number of SDI in Central Java amounted to 0.277 and entered in low category.

The Sport Development Index is a new alternative that can be used to determine the level of sports development in an area [5]. The basic [6] stated that the Sport Development index is the thought of some of the figures of Toho Cholik Mutohir, et al that is called into the sport world because it is concerned about the circumstances of the society. Assumed that sports development was determined by many champions.

The SDI was the answer to the Government's policy relating to the sports banner that was announced in 1983. As long as there is no measuring instrument that can be used to assess, no one knows for sure whether the sport has succeeded or failed. Therefore, through a sport development index, it will be able to know how the progress of sports development in a particular region.

Based on [2] explained that the Sport Development Index (SDI) is a composite index used as a method aimed at knowing the success or progress of sports development in an area and/or country based on the basic four dimensions are: 1) citizen participation in regular sport activities, 2) open space available for sport activities, 3) human resources or sports personnel involved in sporting activities, and 4) Degree of physical fitness achieved by the local community.

The participation of sports refers to community participation in conducting sporting activities within a particular region [5]. In this case, with the participation of the community in the sport can facilitate the purpose of the sport activities achieved. The scope of the participating sports participation in direct participation such as sports and indirectly as a sponsor of sports events. In particular, sports participation
refers to active direct involvement as a sports practitioner. Public awareness in participating sports contributes to the development of individuals and communities so that they become healthy, intelligent, resilient, competitive, prosperous, beneficial and dignified.

According to [2] explain that an open space sport refers to a place reserved for sports activities or physical activities by some people or communities in the form of buildings and/or land. Buildings and open land can be either a standard or a sports field, which is enclosed (indoor) or open (outdoor), or in the form of land that is intended for physical activities and exercise activities. The requirement to be said as an open space sports such as the following: 1) designed for sports, 2) used for sports, and 3) can be accessed by the wider community.

Based on [2] stated that the basic nature of human resource sports is to ensure that all sports activities are supported by the sportsperson who has the competency that can be accounted for in an ethical fashion. Professionals and academic foundations. Therefore, the higher education-based sports institutions should immediately improve and begin to prepare the sport force that is in accordance with the demands of legislation, this is aimed to make the ideals of exercise development can improve the Harkat and the dignity of the nation is not merely a dream.

Physical fitness is one of the important factors in conducting daily activities to avoid excessive fatigue. According to Girwijoyo and Zafar explained that physical fitness is a state of physical ability that can adjust the functioning of its body tools to certain physical duties and/or to environmental conditions that must be addressed by Efficient way, without excessive fatigue and has recovered perfectly before coming the same task on the next day. Physical activity greatly affects all components of physical fitness, aerobic physical exercise regularly affects or reduces cardiovascular endurance and can reduce body fat.

With the sport development reviewed from the sport development index is expected to be a way to improve the quality of physical education with a conservation insight. Because basically physical education and exercise is something sustainable. It relies on a universal agreement, which is contained in the international Charter of Physical Education you Sport, which is declared by UNESCO in the year, in the 1978, the results of ministers and senior officers in physical and sports education in Paris. In item 1 it states that an activity to actualize human rights is an opportunity to develop and maintain physical, mental and moral abilities; And the arena, everyone must have access to physical and sporting education. Continuing at the 3rd Point stating that physical education and exercise can contribute to the mastery of fundamental humanitarian values that are the foundation for the full development of every human being [2].

IV. CONCLUSION

The community participation index in exercising was 0.159 (low), a sports open space index of 0.433 (low), human resource index of the sport of 0.013 (Low), and a physical fitness index of 0.127 (low). Thus, the number of SDI in Central Java amounted to 0.277 and entered in low category.

Governments should make policies on the development and improvement of quality and quantity of sports facilities and infrastructures and undertake program-planning to foster and develop recreational sports, such as Car free day in the end Sports activities such as gymnastics, leisurely walks or other recreational sport activities so that people are more interested in sporting activities. The public should utilize the open space of sports wisely and have a sense of each other. In addition, it also uses an open space exercise with full responsibility and caring for the environment so that it becomes more comfortable when conducting sports activities.

REFERENCES