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COMMENTARY ARTICLE'

Downward Trend of Goal Scoring in World Cup Soccer Tournaments (1930 to 2010)

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ABSTRACT

Association football is one of the most popular sports with more than 265 million players worldwide and 209 national associations. The climax on the calendar is the FIFA World Cup, an international football competition contested by the men's national football teams of the member nations. This championship has been held every four years since the first tournament in 1930 with exceptions in 1942 and 1946 due to World War II. Women too have a World Cup tournament that started in 1991 and is held every four years. The purpose of this commentary is to analyze the downward trend in scoring at World Cup tournaments from 1930 to 2010, with the aim of providing coaches, educators and sport scientists with possible reasons for the decline.

Key Words: Coach Development, Coaching Confidence, Coach Certification

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Downward Trend of Goal Scoring in World Cup Soccer Tournaments (1930 to 2010)

The FIFA World Cup tournament represents the pinnacle of soccer globally. It is a dream of most players not only to take part in the World Cup final tournament, but to win it and be crowned as world champion (FIFA, 2012b). Association football is one of the most popular sports, with more than 265 million players worldwide (FIFA, 2007) and 209 national associations affiliated with FIFA (FIFA, 2012a). The climax on the calendar is the international competition that all countries throughout the world can participate in—the FIFA World Cup, an international football competition contested by the men's national football teams of the member nations. This championship has been held every four years since the first tournament in 1930, with exceptions in 1942 and 1946 due to World War II (Wong, 2008). Women too have a World Cup tournament that started in 1991 and is also held every four years. FIFA also organizes a Confederations Cup, Club World Cup, Futsal, and Beach Soccer tournaments for both men and women at the U-20, U-17 and Olympic levels (FIFA, 2012a).

To determine the participating teams in the finals tournament, qualifying rounds take place during the preceding three years. They are held within six FIFA continental zones overseen by their respective confederations: the Asian Football Confederation (AFC); the Confédération Africaine de Football (CAF); the Confederation of North, Central American and Caribbean Association Football (CONCACAF); the Confederación Sudamericana de Fútbol (CONMEBOL), the Oceania Football Confederation (OFC); and the Union Européenne des Associations de Football (UEFA; FIFA, 2010; Wong, 2008). The number of participating teams in the finals tournament has increased over time. The variation in the number of teams affected the number of matches played as well as the tournament format. The inaugural tournament had 13 teams (18 matches), which has since increased to 32 teams playing 64 matches. The finals tournament features 32 teams competing over a month in the host nation(s). There are two stages: a group stage, followed by a knockout stage. In the group stage, teams compete within eight groups of four teams each. The top two teams from each group qualify to the knockout stage, which is a single-match elimination tournament (Wong, 2008). The knockout stage begins with the “round of 16” where the winners of each group play the runner-up of another group. This is followed by the quarterfinals, the semifinals, the third-place match (contested by the losing semifinalists) and the final. Therefore, a total of 64 matches are played with the winner playing exactly seven matches.

To emerge winners, a team has to consistently score goals (Castellano, Casamichana, & Lago, 2012; Clemente, Couceiro, Martins, & Mendes, 2012). Given that the World Cup soccer tournament is the ultimate reflection of the game at the international level, there is interest in performance, not only in how techniques and tactics are executed, but in the general trend of scoring. The lessons that are derived can be applied to the lower echelons of the game, including club and institutional levels (Castellano et al., 2012; Hughes, 1995; Hughes & Franks, 2005; Jankovic, Leontijevic, Pasic, & Jelusic, 2010; Jinshan, Xiaoke, Yamanaka, & Matsumoto, 1993; Njororai, 2004). Indeed the World Cup tournament provides an opportunity to compare the best teams and players in the world. After each World Cup, the norm is for less successful teams to learn from the trends set by the successful teams by trying to master those aspects of tactics and

techniques that are thought to underlie their success (Castellano et al., 2012; Hughes & Franks, 2005; Reilly, 1994).

Scoring goals in the game of association football or soccer is one of the most exciting aspects of a match (Mal, 1982; Mayes, 1975) and the ultimate determinant of success (Clemente, 2012; Clemente et al., 2012). Spectators enjoy goals, and players who manage to put the ball in the net are idolized and in great demand. Scoring goals determines whether a team wins or loses a match, so it is imperative that sport scientists, administrators, and coaches engage in a dialogue on how best to enhance performance. In this regard, scoring trends need to be closely analyzed so that efforts can be directed at improving both the effectiveness of scoring as well as defending. According to Hughes and Franks (2005), studies on goal scoring help coaches to evolve simple tactical approaches that can maximize the winning chances for their team. Information derived from a quantitative and descriptive performance analysis can provide useful feedback that can enhance performance if appropriately implemented (Castellano et al., 2012; Hughes & Franks, 2005; Kuper, 2011). Given the importance of goals, Clemente (2012) argues that the goals and the processes that generate them need to be the focus of the notational analysis. The purpose of this commentary is to analyze the downward trend in scoring at World Cup tournaments from 1930 to 2010, with the aim of providing coaches, educators, and sport scientists with possible reasons for the decline.

Trends of Average Goals Scored per Match

Figure 1 shows the average number of goals per match between 1930 and 2010 FIFA World Cup tournaments. This figure shows an upward trend in scoring from 1930 to 1954 and a downward trend of average goals scored since then. The average of 5.38 goals per match in 1954 was the highest ever recorded in the history of the FIFA World Cup. Since then, the scoring average per match has been declining consistently. It is noticeable on Figure 1 that the average goals per match since 1962 have never exceeded 3 goals. Apart from 1970, the rest of the tournaments since 1962 also averaged fewer goals compared to the overall average of 2.86 from 1930 to 2010. The lowest scoring averages were 2.21, 2.27 and 2.30 in the 1990, 2010, and 2006 World Cup tournaments in Italy, South Africa, and Germany, respectively. For purposes of comparison, the Woman's World Cup, which started in 1991, has had a steady though declining scoring rate too. The scoring averages were 3.81 (1991), 3.81 (1995), 3.84 (1999), 3.34 (2003), 3.47 (2007), and dropped to 2.69 in 2011 (FIFA, 2011).

Figure 1. Average goals per match in the FIFA World Cup, 1930–2010

Reasons for Downward Trend in Scoring

Game Tactics

The early history of the World Cup tournament shows that offenses were much stronger than the defenses. But team tactics and match strategies continued to evolve, with more emphasis being placed on tightening defenses and minimizing goals conceded (Docherty, 1978; FIFA, 2012; Wade, 1972; Winterbottom, 1964). Thus adventurous offenses (direct play) later gave way to caution, ball possession, systematic build-up, and opportunistic counterattacks (indirect play), leading to a downward trend in scoring. The lowest point in scoring was the 2.21 goals registered per match in the 1990 World Cup in Italy. This tournament was marked by defensive displays that culminated in penalty shoot-outs to determine a winner on four different occasions in the knockout phase. A team such as Argentina made it all the way to the final after winning only two matches in regulation time. The team relied more on penalty shoot-outs in the knockout stages. This tournament also witnessed both semifinals being decided on penalty shoot-outs. The declining scoring of goals was a concern in FIFA circles preceding the 1990 World Cup in Italy. Indeed, there was general agreement in the late 1980s that the laws of the game should be revised in the face of defensive tactics that were gaining an upper hand and thereby stifling attacking play (FIFA, 2012). The decrease in scoring led to several amendments, which were meant to be for the “good of the game” and were specifically designed to help promote attacking football.

The first law that was amended in 1990 to give an advantage to the attacking team was the offside rule. If the attacker was in line with the penultimate defender, he was now onside as

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opposed to being considered offside. This amendment was meant to reduce the influence of the defensive offside trap that stifled offensive play. In the same year, the “professional foul” — denying an opponent a clear goal-scoring opportunity—became a sending-off offense. In 1992 the International Football Association Board (IFAB), the body charged with making changes to the laws of the game, banned goal-keepers from handling deliberate back-passes that were used to stifle offensive play by delaying the flow of the game. This was followed in 1998 when a tackle from behind became a red-card offense, and use of three substitutes in a game instead of two, during a competitive game. With a new century approaching, the commitment to forward-thinking football became a major point of interest and yielded fruits, with a higher average scoring rate in the 1994 World Cup tournament compared to the previous one in 1990. Unfortunately, the scoring average of 1994 could not be replicated in subsequent tournaments. Although the scoring average per match improved to 2.71 in 1994, it has since showed a downward trend of 2.67 in 1998, 2.52 in 2002, 2.30 in 2006 and 2.27 in 2010 (DeBenedictis, 2010; FIFA, 2010). Apart from rule changes to spur goal scoring, there is a need for coaches to improve on the efficiency and effectiveness of execution of match techniques and tactics that lead to creation of scoring opportunities (Jankovic et al., 2010; Njororai 1996a, 1996b, 1996c; 2004, 2007a, 2007b). It is imperative that coaches and players evaluate their performances so that they can identify areas of deficiency on the field of play with a view of improving their technical and tactical executions during training and competition (Armatas, Yiannakos, Galazoulas, & Hatzimanouil, 2007; Armatas, Yiannakos, & Sileloglou, 2007; Castellano et al., 2012; Jankovic et al., 2010; Njororai, 2004, 2007b).

Set Pieces

Set pieces in soccer include free kicks, penalty kicks, corners, throw-ins, and goal kicks that result from infringements and out-of-play situations. These game restart situations accounted for 24.14% of the goals during the 2010 World Cup, 28.6% in 2002, and 33.3% in 1994 World Cup tournaments, respectively. These percentages reveal a declining proportion of goals scored from set pieces. Perfecting set-piece executions during practices and competition should be a top priority for coaches and players, as it can pay dividends in closely fought contests (Kuper, 2011). According to Kuper (2011), Sam Allardyce realized how vital set pieces were to his average team of Bolton Wanderers in the English Premier League. He therefore emphasized set-piece execution to a point where 45–50% of the team’s goals were emanating from set pieces, compared with a league average of about one-third. For example, only 9 out of 15 (60%) penalty kicks awarded in 2010 World Cup led to a goal. This is a scoring opportunity whose accuracy can be improved drastically by coaches and players. An improved scoring rate from set pieces in general is an area that requires close attention on the practice field to improve on the success ratio.

Type of Ball

At the 2010 World Cup, 47 of the 64 matches were decided, while 17 were tied by the end of the 90 min regulation time. Out of the drawn matches, one was decided in extra time and two were decided through post-match penalty shoot-outs. There were 48 preliminary group matches, which produced 101 goals averaging 2.10 goals a game, while the knockout phase

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yielded 44 goals averaging 2.75 goals per game. The scoring rate was lower in the preliminary group phase compared to the knockout stage of the tournament (FIFA, 2010). According to Gibson (2010), the number of shots in each of the 16 first-round preliminary games went down by about 10% compared to 2006; the goals-to-shots ratio also went down to 7.9%. This level of effectiveness in front of the goal was partially attributed to the “Jabulani ball” that was used as the official tournament ball. Arguably many players did not quite manage to have control when executing their shots and passes, as the ball rolled, bounced, and skidded wildly (DeBenedictis, 2010; Gibson, 2010). The lack of control and poor execution of shots and passes are technical deficiencies in players that coaches should address in practice. It is this ineffectiveness in front of the goal that accounts for the longstanding finding that a goal is scored only once in every 10 shots on goal (Clemente et al., 2012).

Improved Standard of Players from Developing Countries

DeBenedictis (2010) further attributes the overall downward trend of goal scoring at World Cup tournaments to the rise of professional players and therefore the improved standards of the game in developing countries. This is because a lot of players from developing countries play professionally around the world and particularly in Europe. Developing countries have become very competitive at the World Cup finals due to players who play professionally and coaches who have international experience. Such teams go to the tournament with a clear objective to avoid embarrassing themselves and their countries by conceding many goals (DeBenedictis, 2010; McHale & Scarf, 2011). Therefore their training sessions are well structured, and they emphasize organized defenses with a view to punishing their opponents via a counterattack or a well-executed set piece.

Bright Colored Shoes

DeBenedictis (2010) also points out a phenomenon that needs empirical verification with regard to the downward trend in scoring: that the flashy shoes worn by key players makes them stand out and easy to spot with the defenders’ peripheral vision. According to DeBenedictis (2010):

... defenders are quick to find players that they need to cover when their opponents wear bright orange or yellow shoes. It’s harder for an attacking player to disappear from the field of vision of a marking player because they can quickly pick out where they are in their peripheral vision because of their shoes. (p. 11)

Loss of Form of Elite Strikers

Although DeBenedictis (2010) may have a point, it is also possible that the recent downward trend in scoring could be attributed to general fatigue, injuries, and loss of form of elite players due to a crowded soccer calendar at national and international levels (Njororai, 2004). A number of players known for scoring goals at club level struggled at the 2010 World Cup, including Lionel Messi (Argentina), Fernando Torres (Spain), Thierry Henry (France), and Wayne Rooney (England). These elite players arrive at the tournament after a long season for

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club and country and/or recuperating from injuries. Data from the three recent World Cups show that strikers' scoring is declining too, from 88 goals in 2002, to 79 in 2006, and 77 in 2010. It is also worth pointing out that substitute players' contribution to scoring declined from 23 in 2006 to only 15 in 2010 (FIFA, 2010).

Conclusion

The 2010 World Cup soccer tournament recorded the 2nd lowest scoring average per game since the initiation of the tournament in 1930. The average of 2.27 was only slightly higher than the 2.21 registered in the 1990 World Cup in Italy. As the quality of the teams across the globe levels off in terms of the players' technical and tactical skills, physical conditioning, psychological preparation, and exposure to sound scientific training, the high-scoring episodes may become increasingly less frequent. It is necessary, therefore, for coaches to be innovative in polishing the technical skills of their players so as to execute the team tactics more efficiently and effectively. Additionally, national coaches, in conjunction with soccer administrators and club coaches, need to plan better on how to manage players so that they reach their peak at the time of the competition. However, this is a big challenge given the long seasons that players have to endure, often culminating in loss of form and injuries before and during the World Cup because that tournament comes at the end of the regular season. The present commentary has highlighted issues pertaining to declining goal scoring at World Cup tournaments. The ultimate expectation is that coaches, educators, and sport scientists will pay particular attention to scoring trends with a view to helping players acquire and refine techniques necessary to perform successfully in competitions. Although rule changes have been known to lead to an upward surge in goals (such as the amendment to the offside and back-pass rules implemented at the 1994 World Cup), the long-term solution lies in coaches and players working to improve their scoring efficiency.

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