Chapter – 1
INTRODUCTION

Games and sports are the part and parcel of our cultural heritage and have been given an important place in the human society right from the primitive days. In ancient times, the Greeks were the founders of the Ancient Olympic Games. These games were started with the first Olympiad in 776 B.C. The Greeks may be credited with the initiative for developing the competitive spirit in man on a mass scale. This competitive spirit was not only evident in the field of sports but also in the fields of art, literature and science. The very word “Athlete” which is very commonly used in sports these days has its origin in the Greek language. The Greeks gave a prominent place to boxing in their competitions. There was no weight category and most of the boxers belonged to heavy weight, there was no ring, but the spectators for competitions formed an arena. There were no rounds, the boxers had to continue their bout until or unless an opponent acknowledged defeat by raising hands or till he was fully exhausted.

Today, games and sports have acquired an even greater importance in contemporary society. The Union Government of India and the state governments have established separate departments under the charge of Cabinet Ministers. Now a lot of encouragement and incentives are offered to the outstanding sportsmen and women on the basis of their performance in various International Competitions. Our
achievements in the Olympic Games are not satisfactory. Records reveal that only three Indians have won the Olympic medals in the individual events so far, namely K.D. Yadav won a Bronze medal in wrestling at Helsinki Olympics in 1952, Leander Paes won a Bronze Medal in tennis at Atlanta, 1996, K. Maleshwari won a Bronze Medal in Women weight lifting in Sydney, 2000. Gurcharan Singh narrowly missed his bronze medal for boxing in Sydney, 2000 by a tiebreaker method and thus he was placed 5th in his weight category. However, India’s performance in boxing has not been discouraging at the International level for the last two decades. A good number of our boxers have won medals in the major competitions such as Asian Games, Common Wealth Games and other World Championships.

Today amateur boxing which is also a great technical sport and martial art is altogether different from professional boxing. Professional Boxing is a ruthless fight of 12 rounds without mandatory headgear whereas amateur boxing is the style of boxing of scoring punches on the target area with offensive and defensive techniques. Most of the people are not aware about the safety rules and regulations of amateur boxing. It would be proper that the sports authorities inform the general public that there is a sole controlling body of this sport in the World, named AIBA. The AIBA has framed a good number of rules and regulations for the safety of the boxers such as Medical Examination prior to the boxing bouts and doping regulations etc.
Researchers have developed many new methods based on scientific techniques for enhancing performance in the various disciplines. In comparison to many body contact sports, boxing requires a higher standard of physical fitness. In the modern world, every sport depends upon physical fitness but the boxers need not only a higher physical fitness level to perform well in the boxing bout but also need to maintain a consistent performance in all the rounds.

HC Kozhen (1960) defined “fitness is used to provide us with a unified and total concept, conveying the idea of wholeness for a particular person within his particular experiences of time and place. In everyday speech, we recognize the “specificness” of fitness in such phrases as ‘fit for job’, ‘fit to teach’, ‘fit to fight’ and ‘fit to compete’. These are the concrete perceptions of the individual adequacy to meet the social demands with which he is faced. Such perceptions help us to understand the idea of fitness in participation in physical activities”. One can say that the physical fitness is the basic need of sportsmen and women that also contributes to specific fitness in a particular sport.

D.C. Setaon (1983) defined “A regular, vigorous exercise programme in numerous training effects that enable the body’s physiological systems to function more effectively. As the individual becomes better adapted to meet everyday demands and stresses there is a corresponding improvement in general health”. It can be said that there is a great benefit of physical fitness to maintain the body that is
similar to a machine, if this machine is maltreated then it will cease to run efficiently.

Dr. Bud Getchall (1983) a well-known physical fitness expert defines physical fitness as “the capability of heart, blood vessels, lungs and muscles to function at optimal efficiency”. According to him the basic components of physical fitness include: –

1) Muscular strength – the ability of a muscle to contract maximally against a resistance.

2) Muscular Endurance – the ability of a muscle to contract repeatedly over a long period of time.

3) Flexibility – the ability to move a muscle or joint through a full range of motion.

4) Cardio respiratory Endurance – the ability of the cardiovascular and respiratory systems to transport oxygen and function efficiently during exercise over a long period of time.

H.M. Barrow (1989). The construction of physical fitness test batteries started from 1940, which refers to health related physical fitness and skill related physical fitness. Health related physical fitness is comprised of cardio respiratory endurance, muscular endurance, muscular strength, body composition and flexibility. Skill related physical fitness is defined by those qualities that contribute to successful athletic performance which include the parameters of agility, balance, coordination, speed, power and reaction time, these fitness parameters
are measured by the fitness tests, such tests are designed keeping in mind various factors such as climatic conditions, nutritional set up, topography, heredity living style etc.

Barrow & McGee (1979) defined “physical fitness is that state which characterizes the degree to which the person is able to function. It is an individual matter, it implies the ability of each person to live most effectively with his potential”.

Physical fitness is an integral part of total fitness, as it is gradually becoming more recognized as a vital element to good living. People think too often that the term “fitness” is used for health related fitness or medical fitness. The AAHPER clearly reveals that one should view physical fitness only as a part of total fitness. The term physical fitness is often misused, normally people opt to regard it as a freedom from disease and sickness. Passing some medical examination does not merely mean only physical fitness but it simply means medical fitness. This is a negative view while the term physical fitness has a positive sense. A physically fit person is not only free from any ailment but also possesses motor fitness and better functional capacity of the various systems of the body particularly cardiovascular system and respiratory system.

According to HARRE (1979), to achieve a higher level of efficiency in techniques and tactics in most of the sports, a high level of specific fitness is most important. One can say that physical fitness contributes
to specific fitness in a particular sport, which is the key point of success for sportsmen in the higher-level competition. Physical fitness is specific to the particular event and each sport requires specific fitness level, as arms strength and cardiovascular endurance are the dominance of fitness components in boxing. Similarly, agility, flexibility, speed are the contributory factors for achieving efficiency in boxing. In amateur boxing, the coaches have to keep in mind, the boxers as individual, even when making a team. A boxer needs higher rate of physical fitness level and some specific physical fitness tests are the need of the hour for making him more and more a technical boxer. Thus, it is necessary that the boxer has an appropriate development of physical capabilities such as a great amount of strength, speed, endurance, flexibility and agility which will enable him to perform well during the whole bout without decreasing his performance in any round even when he feels tired.

Although considerable research work has been done in the European countries for assessing physical fitness in various disciplines but no standardized test battery has been designed and investigated regarding the fitness of the boxers in India. A limited research work has been done concerning physical fitness in various disciplines and a very few physical fitness test batteries have been constructed. It has been observed that the standard of boxing has improved a lot in India for the last two decades and this was possible only due to scientific method of coaching which is essential for achieving a higher rate of performance and...
efficiency in this sport.

When compared with the fitness level of Indian boxers, the fitness level of the boxers of the European countries is much higher. The latest scientific techniques and tactics derived from scientific coaching are the essential and specific components to enhance the standard of boxing in India. A few physical fitness test batteries have been designed by certain scholars in other disciplines which were found useful to enhance the physical fitness level in their respective disciplines who are: Chander Mohan Shekhar (1981), Ajmer Singh (1986) Athletics, Sangral (1986) Hockey, S N Sharma (1987) Badminton, N.P. Sharma (1989) Football, Sandhu (1989) Volley Ball, Safri Lal (1992) Wrestling.

The researcher, a qualified National Grade Boxing official with varied and rich experience of various International Boxing Competitions, is making a maiden attempt to construct a standardized specific physical fitness test battery for boxers. It is hoped that this will greatly help and support the boxers to achieve a higher rate of physical fitness level based on the existing scientific literature.

STATEMENT OF THE PROBLEM

The purpose of this study was to construct and standardize specific physical fitness test for boxers.

DELIMITATIONS

1) The study was delimited to the boxers of Punjab, Haryana,
Himachal Pradesh, Delhi, Rajasthan and Chandigarh for the age groups from 17 to 26 years.

2) The data were collected of male boxers of University and State Level, those who have participated either in University Inter–College competitions or State Championships and further it was limited to only two hundred and twenty boxers.

LIMITATIONS

1) The study is limited to the available sophisticated instruments involved in collection of data.

2) The control of the level of physical fitness of the subjects would be another limitation of the investigator.

OBJECTIVES OF THE STUDY

1) The main objective of the study was to construct and standardize specific physical fitness test battery for boxers and also to prepare the norms of specific physical fitness Tests.

2) The secondary objective was to find out the difference of physical fitness level of University and State Level boxers of various weight categories.

SIGNIFICANCE OF THE STUDY

The findings of the study would help to assess and evaluate the physical fitness level of the University and State Level boxers of the different weight categories. The results of the study shall be used for
developing tools for the selection and screening of the boxing teams. The specific physical fitness test battery would be of great help to the boxing coaches for improving the physical fitness level of their boxers. The present study would also contribute towards the development of further scientific research, which can be used for training the boxing teams and also to formulate conditioning programmes for the boxers.

DEFINITIONS AND EXPLANATIONS OF THE TERMS

**Specific Physical Fitness**

The specific physical fitness relates to the stress caused by the specific test on the organism, which may differ from game to game.

Jagmohan Singh (1976) explained specific physical fitness as an efficiency of the organism for performance of the activities to establish its superiority over the others. So there is a great need to assess the fitness level of the outstanding boxers by giving them specific physical fitness tests relating to strength, speed, endurance, flexibility and agility.

**Muscular Strength**

Mathew (1979) defined it as the “force that a muscle or group of muscles can exert against a resistance in one maximum effort”. Basco & William (1983) “Strength is the muscular force utilized in creation or prevention of movement”. It can be said that it is the ability of the individual to exert maximum muscular tension against resistance.
Muscular Endurance

Harold M Barrow (1989) defined it as the “ability of a muscle or group of muscles to continue contracting over an extended time against moderate resistance”.

Mathew (1979) defined muscular endurance as the “ability of muscle to work against a moderate resistance for a long period of time”.

Speed

Barrows Mcgee (1979) defined speed as the “capacity of the individual to perform successive movements of the same pattern at the fast rate”. It can be said that it is the capacity of the individual to make fast bodily movement with full strength, which can be calculated through the method of timing against distance.

Flexibility

Johnson & Nelson (1982) defined the ability of an individual to move the body and its parts through as wide a range of motion as possible without undue strain to the articulation and muscle attachments. It can be said that the efficiency of the body or its parts to move freely with maximum range of motion.

Endurance

It refers to the ability of an individual to sustain his efforts against the given load for the longer duration. It is the capacity of a boxer to repeat an identical exercise by a particular body part at a fast rate for
longer duration.

Agility

Harrold M Barrow (1989) defined agility as the “ability to make successive movements in different directions efficiently and rapidly”. It is the ability of the boxer to change body position quickly and efficiently from one direction to another direction.

Factor Analysis

A statistical procedure that is used to reduce a large number of variables called ‘Factors’. Factor analysis method’s main object is to achieve parsimony and often to discover the essential variables that summarise the derived information in a large set of variables (Richard M. Jaeger, 1983).

Test

“A test is a specific tool or technique used to elicit a response from the players in order to gain information to be used as a basis for appraisal or quantity or quality of elements such as fitness, skill, knowledge and value (HM Barrow & R McGee, 1979). “A test is the instrument used to assess a variable (Earle F Zeigler, 1982).

Reliability

Reliability is the ability of a test to yield consistent and stable scores. It is a source to see the consistency of a test in measurement about what it measures.
Validity

Richard M Jaeger (1983) defined measurement concept that is concerned with the degree to which a measurement instrument actually measures what it purports to measure. Validity is not absolute, but depends on the context in which an instrument of measurement is used.

B.L. Johnson & J.K. Nelson (1983) “A test has face validity, if it appears obvious that it is a measure of the ability in question”.

Objectivity

Mayer R Carlton (1962) defined objectivity tests yield similar test score in measurement when a different examiner measures it. “Objectivity means the extent to which a test is consistent in measuring what is measured when administered by different individuals.

Norms

Johnson & Nelson (1982) Norms are values considered to be representative of a specific population. Norms help the teacher to compare the performance level of the same set of players. In the present study T-scale, Hull–Scale and Sigma Scale were used for developing the norms. T-scale shows greater spread of scores than any other scale. T-scale was constructed ± 5 SD mean. Hull scale also runs from 0 to 100 points in a distribution. Hull scale was constructed ± 3.5 SD from the mean. Sigma scale was constructed ± 3 SD from the mean.