# FACTORS AFFECTING AND CHALLENGES OF LONG JUMP PERFORMANCE IN SOME SELECTED FIRST DIVISION ATHLETICS CLUBS OF ADDIS ABABA

**BY:**

**FANUEL MINASSIE**

**A THESIS SUBMITTED TO SCHOOL OF GRADUATE STUDIES OF ADDIS ABABA UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTERS OF SCIENCE IN SPORT SCIENCE**

**August, 2012**

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**Approved by board of examiners**

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# ACRONYMS

| | |
|---|---|
| SAID | The Specific Adaptation to Imposed Demands |
| ROM | Range of motion |
| COM | Centre of mass |
| GRF | Ground reaction force |
| MOI | Moment of inertia |
| A.A | Addis Ababa |

## ABSTRACT

This study is conducted with ultimate objective of exploring factors that affect long jump performance. Four sample first division athletics clubs were selected, from six Addis Ababa first division athletics clubs,(Maremia betoch, federal police, Defense and Commercial Bank of Ethiopia) using Comprehensive sampling technique. Thus, the subjects in the study were 29 athletes, 4 coaches, and 4 administrative staff. In this study descriptive survey method was employed. Questionnaire was dominantly used as data collection instrument; unstructured interview, documentary sources and observation were also used in the process. The data gathered through questionnaires were analyzed by using frequency counts and percentages; whereas the data gathered through interview and observation were analyzed. From the data analysis, the major findings obtained were: - There is a gap between the club and coaches. That means the coaches are not motivated by their monthly payment. The support from the club was inadequate. From the findings the major problems and factors that affect long jump performance are lack of scientific method of training and ignorant to the methodology of coaching. As well as the problem of training area lack of qualified coaches for the event, Lack of scientific training methods, lack of psychological skill training. Most of the athletes for long jump were not selected according to talent scouting process and selection criteria, most of them selected according to their current performance. This was one factor and challenge for low performance of athletes in most clubs. Lack of motivation from coach, the concerned body and from their own was also a problem. Lack of interest from athletes in the event because most athletes were joins the event by the push of their coaches. Training area, training method of coaches, coaching styles and lack of competition among clubs were a major factor that affect long jump performance. Lack of attention for the long jump event and qualified coach for each event were also a major challenge for first division athletics clubs of Addis Ababa.



Key words: Long jump, performance, training, approach run, take off, flight and landing.

# CHAPTER ONE

# INTRODUCTION

## 1.1. BACKGROUND OF THE STUDY

Humans have been competing in the long jump for thousands of years. In fact, the event dates back to the original Olympics held by the ancient Greeks. While the long jump has evolved significantly since ancient times, the basic concept has remained the same: athletes must utilize speed, strength and agility to propel anthem as far as possible from the take off point. In Ancient Greece, athletes were permitted to carry weights in each hand known as halteres. While we do not have any training manual from these early times, it is reasonable to assume that the athlete would swing the weights forward when jumping and thus add forward momentum. At the very end of the jump, the athlete might have swung down and back to change his center of gravity to stretch the legs and increase the overall distance. The longest recorded jump in Ancient Greek history was made by a man named chionis who propelled himself 7 meters, 5 centimeters from the take off board. The first Olympic victor in the long jump was Lampis of sparata, who 708 B.C. won the pentathlon a contest consisting of five separate events, including the long jump. Since 1896, the long jump has been a part of the Olympics. In 1914, Dr. Harry Eaton stewart recommended the "running board jump" as a standardizing track and field event for women (it was not until 1928 that women were allowed to compete in the event at the Olympic level). *(http://en.wikipedia.org/wiki/Long_jump)*

In Ethiopia, there are values and practices associated with long jump. Traditionally, some tribes in the southern nation's nationalities and people's regional state had cultural values and practices jumping 10+0 12 oxen to qualify as an adult hood and to ascertain their readiness to marriage. These practices are in some way or another way may contribute positively to the development of long jump in Ethiopia. In Ethiopia, however, long jump is one of those athletics events that were given unsatisfactory less priority and concern. This is revealed by the results and Ethiopia athletes in the field. To sum up, the long jump is a track and field event in which athletes combine speed, strength, and agility in an attempt to leap as far as possible from a take off point.

This event has been an Olympic medal event since the first modern Olympics in 1896 and has a history in the Ancient Olympic Games.

## 1.2. STATEMENT OF THE PROBLEM

Ethiopia has represented in the international competition with long jump by Hiwot sisay in the 4th All African Game which was held in kenya, Nairobi, in 1997(commission for physical culture and sports of Ethiopia bulletin 1987)**.** At these competitions there were also one long jumper, two javelin throwers and one shot putter male representatives of Ethiopia. In the Olympic games Ethiopia has not represented by women long jumpers up to now' but in the twenty second Olympiad which was held in Moscow in 1980, Ethiopia was represented one male long jumper who was Ababe Gessese. There is no athlete who represents our country in the Olympic Games not only in the long jump but also in all field events after the Moscow Olympic (sport and physical culture, Addis Ababa 1980). From the above explanations, we understand that Ethiopia show very poor performance and participation of the field events, when we relate to track events especially to running.

By now the world record in the case of male jumpers is Mike Powell of the United States; his record is 8.95m at the world champion ships in Tokyo On August 30, 1991, setting the current men's world record which has now stood for over 20 years. *(http://en.wikipedia.org/wiki/Long_jump).* When we relate Ethiopian long jumpers to the world record, it is very poor. The current Ethiopian long jumper record for men was held by Gashaw Beza Lema in 1989 that leap 7.50m at Addis Ababa Ethiopia. When we relate to world records, it needs improvement on our long jump. As stated in the encyclopedia of world sport book, all long jump performance done by male jumpers in the 20th century is above 8 meters, but in our case unable to achieve above 8 meters. Regarding to women, the current world record for women is held by Galina Chistyakoua of the former Soviet Union who leap 7.52 m In Leningrad on June 11, 1988, a mark that is approaching 24 years itself. *(http://en.wikipedia.org/wiki/Long_jump).* Regarding to Ethiopian women jumper, the current record for women is held by Hiwot Sisay who leap 6.25m in Derban, South Africa on June 23,1993, a mark that is approaching 19years itself. *(http://en.wikipedia.org/wiki/Long_jump).*

From the above compares', what we have understood is that our participation in the world athletics stage is very limited to a few running races not a complete athletics. So this needs improvement on the athlete's performance. Finally, the researcher intends to investigate the major factors that affect long jump performance of our athletes in some Addis Ababa first division athletics clubs.

## 1.3. RESEARCH QUESTIONS

At the end of this research, the study will attempt to find answer for the following questions.

1. What are the factors and challenges that affect long jump performance in A.A first division Athletics clubs?
2. What are coach factors which influence long jump performance related in A.A first division Athletics clubs?
3. What athlete's technical factors that affect long jump with related of performance?
4. What is the possible solution for the respected problems?

## 1.4. OBJECTIVES OF THE STUDY

### GENERAL OBJECTIVE

To assess and identify the problems encountered in long jump performance in Addis Ababa first division athletics clubs.

### SPECIFIC OBJECTIVE

The specific objectives of the study were:-

- Assess how athletes are selected for long jump
- Explore the types of training given for the long jump athletes.
- To examine the major factors affecting the performance of long jumper athletes
- To enhance athletes long jump performance
- Explore the attitudes of athletes towards the long jump.

## 1.5 SIGNIFICANCE OF THE STUDY

The research will indicate barriers that are negatively influencing long jump performance. In general the study will:

- Help coaches and athletes to identify their weakness and strengths, on long jump, and how to improve and take measures.
- It may also create awareness about training system
- It helps to identify factors affecting long jump performance
- Explore the major challenge encountered in field events particularly in long jump.
- Suggest valuable solutions that will be used for the improvement of long jump performance in Addis Ababa Athletics clubs and in the country.

## 1.6. DELIMITATION OF THE STUDY

The study is delimited to the factors that affect long jump performance in some selected Addis Ababa first division athletics clubs. However, the researcher believes that the result of the study was an indicative of the national situation because the sample clubs are registered by the national athletic Federation and compete at the national level.

## 1.7. LIMITATION OF THE STUDY

In the process of the study, gathering relevant materials (books and documents) which are related to the topic was very difficult and time consuming. Time constraint was also one of the major challenges. Financial problem during the research work was another obstacle to complete the research work on time. However, the researcher attempted to make the study as complete as possible.

## 1.8. OPERATIONAL DEFINITIONS

- Long jump: - is a track and field event in which athletes combine speed, strength and agility in an attempt to leap as far as possible from a take off point.
- Athlete: - An Athlete is a person who engages or involves in track and field events.
- Athletics- is a physical exercise especially track and field events.
- Coach: a qualified person who directs and monitors the morals, determinations, physical. Technical and tactical preparations of athletes through well-planned training program with scientific bases.

- Talent identifications- refers to the process of recognizing individuals currently involved in sport with the potential to become elite athletes/players.
- Talent selection –Involves the ongoing process of identifying athletes/players at various stages of the training.
- Speed: is the ability to develop the highest possible run up speed over a distance of 40 to 50 meters.

## 1.9. ORGANIZATION OF THE STUDY

The study is organized in to five chapters. Chapter one deals with the background of the problem, statement of the problem, objectives of the study, basic research questions, significance of the study, delimitation of the study and operational definition.

Chapter two deals with review of related literature here, theoretical views of scholars regarding to the history of long jump, principles of training, technical requirement of the long jump, physical requirement of the long jump, the role of the coach, biomechanical analysis of long jump, the effect of run-up speed on long jump performance and administrative factors were treated.

Chapter three deals with research methodology and procedures of the study. Chapter four deals with presentation, analysis and interpretation of data. Finally, chapter five treats the summary of findings, conclusions and recommendations.

# CHAPTER TWO

# REVIEW OF RELATED LITERATURE

## 2.1 HISTORY OF LONG JUMP

The long jump is the only known jumping event of Ancient Greece's original Olympics' pentathlon events. The long jump was in these Ancient Olympic Games. All events that occurred at the Olympic Games were initially supposed to act as a form of training for warfare. The long jump emerged probably because it mirrored the crossing of obstacles such as streams and ravines. After investigating the surviving depictions of the ancient event it is believed that unlike the modern day event, athletes were only allowed a short running start. The athletes carried a weight in each hand, which were called halteres (between 1 and 4.5 kg). These weights were swung forward as the athlete jumped in order to increase momentum. It is commonly believed that the jumper would throw the weights behind him in mid-air to increase his forward momentum; however, halteres were held throughout the duration of the jump. Swinging them down and back at the end of the jump would change the athlete's center of gravity and allow the athlete to stretch his legs outward, increasing his distance. The jump itself was made from the bater ("that which is trod upon"). It was most likely a simple board placed on the stadium track which was removed after the event according to (Miller, 2004). The jumpers would land in what was called a skamma ("dug-up" area) as explained by (Miller, 2004). The idea that this was a pit full of sand is wrong. Sand in the jumping pit is a modern invention according to (Miller, 2004). The skamma was simply a temporary area dug up for that occasion and not something that remained over time. The long jump was considered one of the most difficult of the events held at the Games since a great deal of skill was required. Music was often played during the jump and Philostratus says that pipes at times would accompany the jump so as to provide a rhythm for the complex movements of the halteres by the athlete. Philostratos is quoted as saying, "The rules regard jumping as the most difficult of the competitions, and they allow the jumper to be given advantages in rhythm by the use of the flute, and in weight by the use of the halter." as (Miller, 2004) explained. Most notable in the ancient sport was a man called Chionis, who in the 656BC Olympics staged a jump of 7.05 metres (23 feet and 1.7 inches).

There has been some argument by modern scholars over the long jump. Some have attempted to recreate it as a triple jump. The images provide the only evidence for the action so it is better received that it was much like today's long jump. The main reason some want to call it a triple jump is the presence of a source that claims there once was a fifty five ancient foot jump done by a man named Phayllos as (Miller, 2004) reported.

The long jump has been part of modern Olympic competition since the inception of the Games in 1896. In 1914, Dr. Harry Eaton Stewart recommended the "running broad jump" as a standardized track and field event for women. However, it was not until 1928 that the women's long jump was added to the Olympic athletics programme. *(http://en.wikipedia.org/wiki/Long_jump)*

## 2.2 TECHNICAL REQUIREMENTS OF THE LONG JUMP

The long jump requires very specific techniques that must be perfected through consistent routine. The event can be broken down into five segments: starting position, approach, final two strides, flight, and landing. An athlete must continually done each of the five segments to achieve his or her very best distances in the event. *(http://usatffoundation.org/documents/LongJumpBrochure_002.pdf*)

- Starting Position

Long jumpers should begin with a staggered stance, placing the feet close together with their weight distributed equally between each foot. The knees should be flexed so that the shins are at acute angles to the ground. Just prior to pushing off to begin the approach, the athlete’s hips should be slightly forward of his or her shoulders. Both hips should be flexed so that the knees and chest are as close as possible. Finally, the head should be relaxed and neutrally aligned with the spine.

Starting Movements: The athlete begins with an extension of the hip and front leg that is followed closely by flexion of the rear leg. It is important to get a good, strong push against the ground before the rear knee is ever lifted. This will apply maximum force towards the ground and properly initiate the approach run.

Next, the front leg should be completely extended. The athlete should have a rapid pendulum motion with the arms to take full advantage of his or her momentum. The goal here is an entire displacement of the body as a unit, while maintaining forward and upward trajectory of the body.

- The Approach

While accelerating to maximum speed in preparation for the takeoff may seem like a simple concept, it is the critical starting point for the jump. Even one flaw in the approach will reduce considerably the effectiveness of each of the jump's other elements. For this reason, focus and concentration on the technical aspects of the approach is crucial in order to develop a steady gait towards the foul line. The approach has three primary goals: to attain high horizontal velocity, maintain accuracy with a consistent stride pattern, and maintain proper body position.

The approach length is typically 14-20 steps, with 16-18 steps being most common. The exact number will vary according to age and ability. Athletes should not focus on the literal distance of the approach, but the number of steps; this will result in a consistent stride pattern and accuracy on the takeoff board. An athlete who begins the run with his or her jumping foot forward will always have an even number of steps, while those who start with the jumping foot in the back will use an odd number of steps. Better jumpers tend to have longer runs, resulting in greater velocity and a better chance of achieving a new personal best. While longer runs may result in bigger jumps for more experienced athletes, younger athletes should keep in mind that longer runs also increase the likelihood of error on the board. The approach itself can be divided into three phases: the drive, the continuation, and the transition.

Drive Phase: This initial phase serves as approximately one-third of the entire approach with the primary goal aimed at developing momentum throughout acceleration. The frequency of the stride will start out low but should gradually and consistently increase during acceleration. Athletes should focus on using forceful strides that help achieve high displacement. The long jumper will initially begin the drive phase with a marked forward body lean, but gradually the athlete will use the force from each step to push the body into an upright position. If the athlete tries to force a particular body position and simply raises the head or stands up, momentum will decrease and maximum velocity will not be attained. With proper form and consistency of execution, the head and pelvis will be in neutral alignment with the spine. Finally, maintaining high amplitude of the arms and legs will maximize displacement of each step.

Continuation Phase: This is the middle of the approach with a focus of attaining

Maximum velocity, as well as properly positioning the body for the jump as the athlete nears the board. Just like in the drive phase, the runner should continue to maximize displacement while keeping the head and pelvis neutrally aligned with the spine. Ideally, the runner's feet should contact the ground directly beneath the hips.

Transition Phase: Encompassing the final four steps of the approach, the transition phase has the critical purpose of putting the body into the correct position for the takeoff. The characteristics of this phase are identical to those of the continuation phase.

- Final Two Strides

As we've said already, horizontal velocity is the single the biggest determinant of success in the long jump. The ability to transfer horizontal velocity into vertical velocity is determined during the final two steps of the approach leading into the takeoff. These two steps are going to determine not only the velocity but also the takeoff angle of the jump, ultimately translating into the distance of the jump. The ideal takeoff angle a jumper ought to look for is typically about 25 degrees. Elite jumpers normally display takeoff angles of 19-21 degrees. The transfer of horizontal to vertical velocity must be minimized and this is accomplished through penultimate mechanics. Penultimate mechanics create vertical velocity at takeoff but ultimately reduce horizontal velocity. Prior to the penultimate step, maximal velocity must be attained on the runway. If the final steps are loud and broken, the athlete is giving up too much velocity to the vertical component. The check mark (25-31 feet out) is used to help develop consistency and make certain that maximal velocity is attained prior to reaching the board. There will naturally be a change in stride rhythm in the final two steps to increase the vertical component upon takeoff. The penultimate leg is critical because the takeoff foot must be far enough forward for a proper hinge movement. Additionally, the athlete must limit amortization (or ground contact) of the penultimate leg in order to maintain maximum horizontal velocity, lower the center of mass and follow it with a full extension of the leg upon takeoff. A large issue facing most novice long jumpers stems from the athlete trying to gain vertical height by slowing the run to prepare for the takeoff, ultimately reducing horizontal velocity and shortening the length of the jump. To avoid this, athletes must maintain forward velocity and limit vertical velocity as much as possible.

Common Errors during the Final 2 Steps

Error - Loss of speed. Corrections – The athlete could be preparing too much for the takeoff and setting it up instead of maintaining as much speed as possible. A strength deficit is also possible, resulting in the athlete not being able to convert his or her speed at take off. Make sure the athlete is not looking down at the board.

Error – Stepping side to side away from the midline of the body. Corrections – The athlete could be focusing on jumping up and not out (i.e., vertical, note USA Track & Field Coach Education for the Jumps Level II Curriculum). Lack of strength could also be an issue.

Error - Reaching / braking on the penultimate step. Create loud 'slapping' sound.

Corrections – The athlete must be active on the penultimate step. Check approach run mechanics and make sure athlete is not looking down at the board. In many cases, a correction simply boils down to practice and discipline.

Error – Hips drop but lose oscillation, causing floating but not much height in jump.

Correction – Pulling the free leg through following the stretch reflex during the penultimate step.

- Flight

Takeoff from the board results in the creation of forward rotation. Thus it is vital for the athlete to avoid leaning and to keep the head in line with the body. However, some forward rotation is inevitable due to the thrust of the takeoff foot. The long jumper must counter the forward rotation while airborne, achieved by transferring momentum from the lead knee and opposite arm upon takeoff. Then, it is up to the jumper to counter forward rotation using the hang or hitch kick (although the sail is another option, most long jumpers use either the hang or hitch kick). The hang will slow forward rotation by extending the hands and feet away from the body. The hitch kick will actually counter forward rotation due to the motion or cycling of the arms and legs. Although it is more difficult and requires more time, the hitch kick has become the dominant method for professional long jumpers. It requires 2 ½ full cycles, which is considerable airtime. The hang is far simpler and recommended for beginners.

Common Errors in Flight

First, check approach run and penultimate (final two) steps to see if they are executed properly.

Error – Rotating too far forward in the air. Corrections – Extend arms behind the head (in hang) or opposite arm from the take-off leg (in hitch) to force the athlete's body to stop or slow down forward rotation. Check the takeoff; the free leg should aid in pelvic alignment, which counters

forward rotation. Forward lean at take-off also creates forward rotation from a late acceleration phase. Error – Feet not getting in front of the body in the air prior to landing. Correction – Again, check the takeoff mechanics first. Bring arms behind the head and bring the chest forward to bring the legs up and forward.

- Landing

At takeoff, the center of mass shifts according to the trajectory of the jump. To counter this and prepare for landing, the jumper should extend the legs forward while keeping the arms behind the hips upon contact with the sand. The head and chest should be dropped forward. Combined, these techniques will alter the center of mass and prevent the athlete from falling back into the pit after landing.

Ultimately, athletes want to be in the flight phase as long as possible. In preparation for landing, focus on "letting the ground come to you." The arms should extend forward and the heels should make the first mark with that mark being the closest to the board/ foul line. With the momentum created, as the legs collapse, the athlete's rear end is pulled forward and should contact the sand in the same spot as the heels at the initial contact point.

Common Errors in the Landing

Most problems and errors on landings are due to improper takeoffs and inconsistent approaches. Always look first to correct the movements that precede the errors that you see. Error - Feet land under the center of mass, and not out in front, making athlete look like they are standing up in the pit. Correction – Athlete could be jumping up and not out and up. There also could be a loss of speed before takeoff. Practice landing mechanics with heel landing first and toes pointed up. Fold the body and swing the arms forward to bring the legs forward and up *(http://usatffoundation.org/documents/LongJumpBrochure_002.pdf)*

## 2.3. PHYSICAL REQUIREMENTS OF THE LONG JUMP

As with any sport, the goal of the long jumper is to develop the most efficient technique possible while maximizing the performance of every muscle in the body. This can be accomplished by balancing speed, power, strength, jumping ability and coordination. *(http://usatffoundation.org/documents/LongJumpBrochure_002.pdf)*.

The development of five distinct areas will create a more balanced and competitive athlete:

- Coordination
- Endurance
- Flexibility
- Speed
- Strength

➢ Coordination

Coordination is the ability to accurately and efficiently move the body and its parts in order to accomplish a task. Often overlooked in training for the long jump, coordination serves a critical function in the athlete's success. There are three basic subsets of coordination on which athletes and coaches should focus: agility, balance, and mobility. Agility is the ability to move and change direction of the body quickly and effectively while remaining under control. To develop adequate levels of agility, an athlete must be able to accurately perform un patterned and unrehearsed movements. Balance is the ability to minimize and recover from postural sway. It is the body's awareness to know where it is in an environment while maintaining an optimal or desired position. Balance really refers to the ability of the body to remain stable and can improve in both static and dynamic atmospheres. Mobility refers to the range of motion that a joint or series of joints are able to move. Long jumpers must develop mobility to a high level in order to move the joints through appropriate amplitudes of motion during competition.

Horizontal jumping techniques, when taught in a planned progression, will ultimately address most Skills necessary to achieve satisfactory levels of coordination *(http://usatffoundation.org/documents/LongJumpBrochure_002.pdf).*

➢ Endurance

Endurance is important in just about any sport, but must be developed to the specific demands of jumps training and performance. Coaches must implement two types of endurance when forming a training regimen for long jumpers — anaerobic and aerobic.

Anaerobic literally means "without oxygen." During periods of high exertion (90-100% intensity), oxygen is not the primary fuel source for your muscles. Anaerobic training allows the body to produce energy in the absence of oxygen.

Anaerobic endurance comprises the majority of the endurance training for long jumpers, contributing to the development of speed and power in the long jump. Anaerobic exercises can

also help prepare the athlete for more demanding types of training further into the macro cycle. Circuit training utilizing general strength or medicine ball exercise is activities that increase anaerobic endurance and prepare the long jumper for more demanding training later in the program.

Aerobic training creates the conditions in which the body works and fuels itself in the presence of oxygen. Aerobic exercises such as jogging and distance running are usually performed at 55-65% intensity. There is no pressing need for long jumpers to spend significant amounts time on aerobic training as the event simply does not require significant development of this energy system. Short but very demanding interval running will be sufficient when developing aerobic endurance. *(http://usatffoundation.org/documents/LongJumpBrochure_002.pdf)*.

- Flexibility

Flexibility is the ability to attain range of movement at specific joints and is vital for all athletes, especially long jumpers. Two types of flexibility must be addressed in any training program: static and dynamic. Static flexibility refers to the ability to achieve large ranges of motion at the joints plus the ability to demonstrate pliability in the muscle tissue itself. Dynamic flexibility involves the ability to move joints through wide ranges of motion at high speeds. Dynamic flexibility should be the main focus at the beginning of the workout while the body is getting warmed up. This prepares the body to endure specific ranges of motion during the rest of practice. At the end of a practice is an ideal time to static stretch to work on and improve muscle length. *(http://usatffoundation.org/documents/LongJumpBrochure_002.pdf)*.

- Speed

Speed training is much more than simply coaching an athlete to run faster. In reality, it requires work on three separate components: acceleration, maximal velocity, and speed endurance.

Acceleration is the rate at which the speed of an object is increasing. The acceleration phase takes place the first 0-30 meters or approximately 3-4 seconds after the start of a sprint. During the earliest parts of acceleration, especially the first two steps, the athlete must overcome the weight of his or her body (inertia) by moving it forward as quickly as possible. To attain the greatest results, overcoming inertia requires significant degrees of strength and power. Some effective workouts/exercises to help develop acceleration include short sprints up to 30 meters, sled pulls, stadiums, and short uphill sprints. After approximately 30- 40 meters, acceleration transitions into maximum velocity. Maximum velocity is defined as the point at which ground contact times

are reduced to a level where meaningful force application is no longer possible. Maximum velocity is another way of saying running at top speed. Exercises that train an athlete to optimize maximal speed include fly runs and sprint-float-sprint drills. Long jumpers must be able to maintain coordination at high speeds to continue running at top or near top speed. Speed endurance indicates an athlete's ability to maintain top speed over a prescribed distance or period of time, but it is also the ability to slow the rate of deceleration while running at full intensity. After acceleration and maximum velocity have been developed, speed endurance will be utilized. Once an athlete has achieved their maximum velocity, he or she can only maintain that top speed for 1-2 seconds before deceleration begins and optimal speed endurance is needed. However, training this area does not require the same level of focus for long jumpers as it does for sprinters since long jumpers do not need to maintain maximal speed for long durations. Workouts that include long hill runs or sprints of 80-150 meters can help develop speed endurance. *(http://usatffoundation.org/documents/LongJumpBrochure_002.pdf).*

- Strength

To achieve perfection in the long jump, the athlete must generate high levels of force. An athlete's overall strength will determine how much force he or she can summon during a jump. Four aspects of strength that must be addressed in any effective training regimen include general strength, maximal strength, power, and elastic strength.

General strength simply refers to the jumper's ability to handle his or her own body weight. General strength training often consists of bodyweight exercises that involve little or no external loading.

Maximal strength refers to the maximum amount of force that can be generated (static or dynamic). Training that develops maximal strength often includes more intense resistance exercises such squatting and pressing (as well as their variations). Some Olympic lifts like cleans and snatches are also highly effective in the improvement of maximal strength.

Power should not be confused with maximal strength because it actually refers to the ability to generate force quickly—not the maximum force that can be generated. The importance of power development cannot be understated, as jumpers must overcome resistance while running at high speeds despite the fact that the time available to generate such force is short. The most effective exercises for generating power are those that emphasize high-speed movements and moderate resistance. Olympic lifts, throwing activities, and ply metrics will all help convert raw maximal

strength into explosive power that will translate into longer jumps. Elastic strength is the ability to produce force using the body's stretch reflex –overcoming a resistance with a fast contraction. A great way to develop elastic strength is to add jumping exercises and plyometrics into the training routine. *(http://usatffoundation.org/documents/LongJumpBrochure_002.pdf)*.

## 2.4. THE ROLES OF THE COACH

Coaches can have a great influence on their athletes. The type and amount of influence you will have on your players is determined by your personal skills. You significantly affect your athletes' motivation to achieve and the enjoyment they receive from participation in sport. Mutual respect for each other and the longer you are together with your players will increase the influence you have on them. MACKENZIE, B. (2005)

The three major roles of the coach according to MACKENZIE, B. (2005) were:

• The Coach as a Leader

• The Coach as a Teacher

• The Coach as an Organizer

To have a positive and lasting impact on the athletes you coach, you need to be effective as a leader, teacher, and organizer; encourage and support your players; coach enthusiastically, and express genuine concern for the athletes' total well being. Your athletes' decisions about long term participation in sport are largely determined by the type of impact you have on them. Your role becomes more important when you consider that the influence you have on your players extends well beyond the contact you have with them in the environment.

The Coach as a Leader

- Establish Seasonal Goals and Objectives:
- Use a Democratic Coaching Style
- .Provide an Appropriate Role Model from Whom Your Players can Learn
- Develop Leadership Abilities in Your Athletes
- Establish a Positive Relationship with the On-Ice Officials
- Deal Effectively with Well-Meaning but Difficult to Handle Parents
- Demonstrate a Sincere Interest in Helping Athletes to Maximize their Potential

The Coach as a Teacher

- Teach the Necessary Skills
- .Teach Skills Using the Proper Sequences and Progressions
- Teach Skills Using Understandable Language
- Understand that Athletes Differ in their Readiness to Learn a Skill
- Understand that Athletes Acquire Skills at Different Degrees

The Coach as an Organizer

An important role of the coach is to be an effective organizer. As an organizer, the coach must be able to:

- Plan Effective Practices
- Select Assistant Coaches who will Provide Maximum Benefit to Yourself and Your Players
- Seek the Assistance of the Parents of your Players in Running the Activities of Your Program

## 2.5. TRAINING LONG JUMPERS

Success in the long jump depends a great deal on the speed of the jumper because horizontal velocity (speed) is a primary requisite for ultimate success in the event. Great long jumpers such as Carl Lewis, Mike Powell and Marion Jones are also world class sprinters. Just as important as horizontal velocity is vertical impulse and finally technique also affects performance.

- A Philosophy for Coaching Long Jumpers

High school coaches will find the abilities and physical maturity of young athletes will vary greatly. Long jumpers may range from 14 to 24 foot performers. A coach needs to construct a training program to encompass this spectrum of ability. Training that emphasizes the fundamentals of speed, rhythm and power will benefit jumpers the most. Emphasis on technical execution should increase the performance of all jumpers as they acquire basic jumping skills. *(www.LA84Foundation.org.)*

## 2.6. TRAINING PRINCIPLES FOR THE LONG JUMP

As with every other event, universal principles of training apply to the long jump.

- progressive overload

In order for the physical capacity of the athlete to increase, the athlete's system must be subjected to stress, or overload. The body's adaptation to this stress results in increased capacity. This cycle of stress and adaptation is the foundation of all training. This is also known as the **SAID** principle, the Specific Adaptation to Imposed Demands.

- Specificity

The body adapts to specific demands placed upon it; therefore, training for the long jump must specifically address the requirements, strengths, and skills needed to perform these events.

- Repetition

This principle is an outgrowth of the specificity requirements. In a technical event such as the long jump, the neuromuscular patterns of technique need to be enforced through repetition of movement. This usually entails dissecting the jump into components and performing them repeatedly with proper technique.

- Recovery

In order for the body to adapt to progressive overload, it must rest and recover from the applied stress. Long jumpers need ample recovery for their legs to be fresh. Since much of the training they must do is quite demanding, long jumpers require plentiful rest even though they may not feel tired or worn out. Long jumpers cannot jump every day and expect to perform well in competition.

- Explosiveness and Acceleration

Long jumps are explosions of the body off the ground. The body becomes a projectile accelerated by its own power. The training of a long jumper needs to specifically develop this explosiveness through weight training, plyometric training, and jumping.

- Body Control (Kinesthetic Awareness)

To excel in the long jump, the athlete must develop the ability to control the position and posture of his or her body while in motion, both on the ground and in the air. The athlete needs to have a feel for the body and how it moves. This is the essence of athletics. Drills and repetition refine this awareness.

- Considerations in Training

Both the coach and the athlete must have an understanding of the physical and technical skills needed to be a successful long jumper. This means understanding the importance of sprint speed and mechanics, leg strength, jumping power, rhythm, flexibility and proper jumping technique.

• Athletes should also have a basic understanding of the biomechanical principles that govern their event. With effort by the coach, these can be taught easily. Most jumpers need to understand the importance of the transfer of horizontal velocity into the jump.

• Developing sprint speed and mechanics are the most important features of training for the long jump. Long jumpers must train to be short sprinters.

• Successful long jumping requires good strength. The transition from approach to takeoff in the long jump is one of the most physically difficult skills in track and field. Preseason weight training and intelligent use of plyometric training throughout the season will help provide athletes with the strength they need to perform well and avoid injury.

Good jumpers must also be flexible. The speed and power demands of the long jump place athletes with poor flexibility at substantial risk of injury. Long jumpers should include event specific stretching exercises into their daily workouts. Since good long jumpers and triple jumpers are usually good sprinters, these athletes often compete in multiple events. It is the responsibility of coaches to adjust the training of jumpers to ensure they have adequate rest and recovery. Hard jumping or sprinting cannot be done every day. *(www.LA84Foundation.org.)*

## 2.7. TYPES OF TRAINING FOR THE LONG JUMP

The types of training done for the long jump can be divided into three categories: general training, specific training and specialized training.

- General training develops the overall physical capacity and fitness of the athlete. This encompasses basic running, weight training, plyometric exercise and rhythm development.
- Specific training has a direct correlation to the skills necessary for long jumping. Often it is a refinement of general training. Sprinting, sprint technique drills, jumping technique drills and specific plyometric drills are included.
- Specialized training duplicates the exact movements of long jumping. This normally involves exercises that replicate a specific feature or phase of the jump. Full speed

approach runs, full jumps, transition drills with takeoff and multiple jumps are examples. With high school athletes, the vast majority of training will be general in nature. First, the strength and performance levels of these young long jumpers will benefit much more from general training throughout most of the season. Coaches should develop jumpers as athletes first, then as long jumpers. Second, with a large number of athletes to guide, few coaches can spend the time necessary for intensive specialized training. Third, most jumpers are multi-event athletes, and general training fulfills the basic training demands of other events as well. Specific and specialized training teach athletes to be good long jumpers. The proportion of specific and specialized training to general training should increase over the course of the season. Specialized training is the refinement of technique. At the high school level, it should account for only a modest amount of the total training program. *(www.LA84Foundation.org.)*

Like any event in track and field, the long jump requires many types of training.

- Running training (including sprinting)
- Plyometric training (including rhythm jumping drills)
- Weight training
- Technique drills
- Long jumping
- Flexibility training
- Jump testing

➢ Running Training

Running workouts for long jumpers develop overall fitness, endurance, rhythm,
Sound running mechanics, and especially sprint speed. Emphasis should be placed
Upon building speed and developing a strong acceleration pattern with relaxed sprinting technique. Off-season long runs will strengthen the athlete and prevent injury. In-season training should include sprint training twice per week. Of course, the multi-event athlete also needs to train for his or her specific running event. This usually satisfies the general fitness demands of long jumping.

➢ Plyometric Training

Plyometric training specifically fulfills the needs of long jumpers by developing the ballistic muscular strength these events demand. Care must be taken not to over train and risk injury. Nonetheless, plyometrics are effective because they directly address several principles of training for the long jump.

Sample Plyometric Workouts

- Weight Training

Weight training builds basic strength. The off-season is the time for long jumpers to work in the weight room. After the competitive season begins, weight training should become a maintenance activity. Many long jumpers probably come to track and field directly from another seasonal sport, so they may not have time to undertake a full strength training program.

Many coaches have their athlete's long jump over hurdles as a means of increasing the height of the jump. This can be a disastrous training exercise. It develops improper biomechanics, leads to bad technical habits and increases the risk of injury to the athlete. Few, if any athletes can execute a jump properly with enough height to clear a hurdle. More likely, the jumper will learn to slow at the end of the approach to gather for the takeoff, then pull the legs up into a poor jumping position in order to clear the hurdle. Moreover, this drill uses the negative incentive of fear (hitting the hurdle) as motivation.

- Endurance Jumps

By performing 6-10 jumps using good technique and rhythm, endurance jumps build specific jumping fitness and reinforce the need for consistency. Once again, the objective is to stress execution, not distance.

- Maximum Effort Jumps

These specialized jumps emphasize effort and performance. After a thorough warm up, the athlete should take three to six full approach jumps. More jumps may be taken with a shorter approach. Maximum effort jumps should be done once every two weeks early in the season and once a week with fewer jumps as the season progresses. A high school jumper who is competing in a dual or invitational meet every two to four days throughout the season may never need to do this type of training. Jumping far is for meets; jumping correctly is for practice.

- Jump Testing

Although the real test of an athlete's progress in training is performance in competition, coaches should test the physical skills of their athletes periodically. This helps to identify individual strengths and weaknesses, while encouraging and motivating athletes as well. Testing at the end of the season will provide both the coach and the returning jumpers with training goals for the next year. (*www.LA84Foundation.org.)*

## 2.8. TALENT DETECTION AND DEVELOPMENT IN SPORT

Searching for talent and assessing early development are valuable stages in almost any multi-step sport program as explained by (Brown, 2001; Falk, Lidor, Lander, & Lang, 2004; Williams & Reilly, 2000).These stages usually include three aspects of measurement and assessment: physical, psychological, and sociological according to (Brown, 2001; Fisher & Borms, 1990; Reilly, Williams, Nevill, & Franks, 2000). If measured correctly, these elements may provide coaches and physical educators with relevant information on the young prospects' abilities.

When examining the context of the tests used by coaches and instructors in searching for talent in young athletes and in the evaluation of early developmental stages of talent, it becomes obvious that, although there are a variety of tests assessing the physical ability and motor skill level of young prospects, only a few examine the psychological and sociological aspects as explained by (Abbott & Collins, 2004; Brown, 2001; Gore, 2000; Malina, Bouchard, & Bar-Or, 2004; Morris, 2000; Morrow, Jackson, Disch, & Mood, 2005). Among the objectives of tests assessing the physical ability and skill level of young athletes are (a) determining their physical abilities and motor skill level across different phases of the training program--preparation, competition, and transition according to (Falk et al., 2004; Reilly et al., 2000), (b) predicting the athletes' potential and future success as explained by (Lidor, Falk et al., 2005; Spamer & Coetzee, 2002), and (c) motivating them to practice harder and improve their individual physical achievements according to (Morrow et al., 2005).

A few relevant factors should be considered by coaches when using tests that assess the physical ability and skill level of prospects in early phases of talent development. From an action theory perspective, these factors refer to the components of an action situation: the person, the task, and the environment as suggested by (Hackfort, 2006; Nitsch & Hackfort, 1981). With regard to the prospect, coaches should take into account the athlete's multifaceted developmental stage. Some of the children who are involved in sport activities at an early age are mature enough biologically and psychologically to perform the tests assessing physical ability and skill level and to attain a

high level of achievement. However, others may not have reached the required maturation levels that would enable them to cope with the challenge, as well as the specific requirements of the tests, and thus, they will not be able to succeed. Some of the prospects may be accelerated in their physical development and highly motivated to perform, while others might say they perform "just because someone asked me to do it." The social preconditions of the prospects should be taken into account as well. Some of the children may have a supportive social environment (e.g., peer group, parents, or teachers) encouraging them to be physically active, and this would enable them to achieve a certain level of athletic performance according to (Burrmann, Stucke, & Streso, 2007).

Coaches should also take into consideration the characteristics and features of the tasks included in the battery of tests. A variety of tests are composed of tasks reflecting fundamental motor abilities such as catching, jumping, running, and throwing, which are familiar to children from an early age and, thus, can be successfully performed by the prospects. However, there are sport tasks that are artificial in nature with which the prospects may not be familiar, such as passing in volleyball, and subsequently, they may experience difficulty executing them.

The type of sport is also a factor that should be considered by the coach in the testing process. For example, if the test assesses abilities/skills required in team sports (e.g., basketball or soccer), then it should be composed of both individual and group activities; if the test assesses abilities/skills needed in individual sports (e.g., gymnastics or track and field), the prospect would probably perform the task individually. It is assumed that it would be easier for the coach to use a test that assesses abilities/skills in individual sports rather than team sports in this case.

According to the theoretical foundations of the action theory approach (Hackfort, 2006), it is especially important to consider that human actions are based on the dynamic interrelationships of the person, the task performed, and the environment in which this task is performed. Therefore, when coaches select a test assessing the prospect's physical ability and skill level, they should be aware of the interrelationships that exist among the prospects (i.e., their biological and cognitive developmental stages), the tasks they perform (e.g., familiar/artificial, level of difficulty), and the environment (e.g., individual/ team sports, the specific settings in which the test is performed). In order to meet the objectives of the tests, and particularly their predictability effect, all these factors must be taken into account, and a careful selection of tests assessing physical ability and motor skill level should be made. A question that coaches often ask is whether these tests will be

effective enough to help them make appropriate decisions associated with the future success of their talented prospects. Therefore, it must be assessed whether coaches (and their athletes) can really benefit from the use of tests assessing physical ability and skill level in early phases of the talent search development in sport.
The use of tests assessing physical ability and motor skill level can be also discussed from a philosophical point of view. On the one hand, there is the claim that talent is determined by human genes and designated tests should be able to detect one specific talent. On the other hand, there is the view that every child has various potential talents, and each of these children has the potential for successful development. In both cases the consequence is that talent has to be promoted by appropriate tasks (i.e., tests) at the right point in time, and the young prospect must be provided with the necessary environmental support. However, the functional meaning of the tests as well as of the testing process is varied, and it has to be decided for what specific objectives (e.g., detecting a talent or creating one) the designated tests are used.

## 2.9. THE EFFECT OF RUN-UP SPEED ON LONG JUMP PERFORMANCE

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The effect of run-up speed on long jump performance was systematically examined using a technique intervention study. The results from the study were in good agreement with theoretical models and confirmed the accepted wisdom that the faster your run-up, the farther you will jump. However, the strength of the relation between jump distance and run-up speed (8 cm per 0.1 m/s) was less than that suggested by a cross-sectional study (13 cm per 0.1 m/s). We propose that the trend line from the technique intervention study indicates the improvement to be expected from better running technique, whereas the trend line from the cross-sectional study indicates the improvement to be expected from increased muscular strength.

Many studies of the biomechanics of long jumping have used a cross-sectional correlation study design. In such studies a representative trial by a number of performers is analyzed and the technique variables that have a significant influence on the performance criterion are deduced. Studies by Hay et al. (1986), Hay (1993), and Lees et al. (1993; 1994) identified run-up speed as having the strongest correlation with jump distance.

However, Bartlett (1999) warns that that a high correlation does not imply a cause and effect relation between the technique variable and performance, and that the results of a cross-sectional study cannot be generalized to a specific athlete.

Technique intervention studies are another potentially fruitful avenue of investigation, but they have seen little application in understanding and improving sports performance. In this type of study an important technique variable is deliberately varied, preferably over a wide range of values, and the resulting changes in the performance of the athlete are noted (Greig and Yeadon, 2000). This is an effective method for revealing the causal relations between technique and performance, and it can provide significant insights into improving the performance of an athlete.

The present study used a technique intervention strategy in which the run-up speed of a long jumper was systematically varied to produce changes in jump distance. The results of the study were compared to previous cross-sectional and theoretical studies, and the implications for the speed training and strength training of long jumpers was examined.

A male long jumper with a personal best performance of 8.25 m was recruited for the study. The athlete jumped for maximum distance several times using his normal competition run-up speed, and then several more times using shorter and slower run-ups.

The jump distances were measured with a fiberglass tape, and the jumps were recorded in the sagittal plane with a high-speed video camera operating at 100 Hz. An Ariel Performance Analysis System was then used to determine the horizontal speed of the athlete's centre of mass in the last stride before takeoff.

The relation between run-up speed and jump distance obtained using the technique intervention study was clearly different from that for the cross-sectional study of Hay (1993). A difference is to be expected because of the different aims and designs of the two studies. The cross-sectional study considered many jumpers of different ability; from mediocre high school athletes (lower left) through to elite male athletes (upper right). These athletes were attempting to achieve their maximum possible distance. That is, the data points are maximum (or near-maximum) performances, where the athlete has used a self-selected jumping technique that was intended to be close to the optimum for the athlete's physical capabilities. (In long jumping, the optimum technique is usually to use the fastest possible run-up and to spring upwards as much as possible at takeoff.)

In contrast, the intervention study reported here considered only a single athlete. Although the jumps by the athlete were always at maximum effort, the jumps with the slower run-ups were not employing the optimum technique that would result in the maximum possible jump distance. However, at any given run-up speed the technique used by the athlete was close to the optimum for that run-up speed. This is a reasonable assumption because the athlete was highly experienced and regularly performed jumps from a short run-up as part of his normal training program. The trend line for the intervention study intersects that for the cross-sectional study at a jump distance of about 8 m. This is expected because data points in this region correspond to conditions identical to those for the cross-sectional study; namely, jumping for maximum possible distance using a near-optimum technique.

The results from the technique intervention study confirm the role of speed work in the training program of the long jump athlete. The faster your run-up, the farther you will jump. The present study indicates a rate of improvement of 8 cm per 0.1 m/s increase in run-up speed. A long jumper may improve his run-up speed by using a better running technique or by increasing the strength of the muscles used in sprinting (or by a combination of the two). We contend that the trend from the technique intervention study indicates the improvement to be expected solely through better running technique. Note that the intervention study considers a single athlete with a unique combination of body size, muscular strengths, and technical proficiency. The trend line for this athlete indicates the expected improvement if all these characteristics are unchanged, except that the athlete is able to a produce a faster run-up speed. During the technique intervention study, the muscular strength of the athlete did not change, and so the trend line must therefore indicate the improvement to be expected through better running technique.

We also contend that Hay's trend line indicates the effect of muscular strength on long jump performance, rather than the effect of run-up speed. Recall that this study considers athletes of different ability. It is well accepted that athletes with stronger dynamic leg strength can run faster and can exert a greater force at takeoff according to (Young, 1995).

We believe that the main cause of variations in ability among athletes is differences in muscular strength, rather than differences in body size or technical proficiency. That is, the performances in the upper right of (for the cross-sectional study) are produced by strong athletes who can therefore run fast and exert large takeoff forces, whereas the performances in the lower left are weaker athletes who cannot run as fast or exert large takeoff forces. Hay's trend line therefore

indicates how an athlete's performance would change in response to a change in strength. Unfortunately, the trend line does not reveal the magnitude of the strength increase required for a given improvement in jump distance. The relatively large scatter in the data about the trend line is a reflection that body size and technical proficiency also have an important influence on an athlete's performance.

As muscular strength increases, the athlete has a faster maximum run-up speed and so the upper limit of the trend line moves further to the right. In addition, the athlete is able to exert a greater takeoff force and so at any given run-up speed the athlete is able to jump farther. That is, the whole trend line is shifted upward.

The results from the theoretical models of Alexander (1990) and Seyfarth et al. (2000) were in good agreement with the experimental data from the technique intervention study. This suggests that the models, which consist of a two-segment mechanical model of the takeoff leg with a Hill-like torque generator at the knee, contain much of the essential features of a long jumper. These models may provide a means of testing the predicted effects of muscle strength on long jump performance.

The trend line from the technique intervention study was used to calculate the effect of wind on a long jumper's performance. An athlete running with a tailwind experiences reduced air resistance and so is able to achieve a faster running speed.

Linthorne's (1994) analysis of 100-m sprinters indicates that a 2 m/s tail wind increases an athlete's running speed by 0.10 m/s. assuming a similar increase in long jump run-up speed, the improvement in performance for a 2 m/s tail wind is expected to be 8 cm. To this must be added to the 2 cm increase due to the effect of wind in the flight phase (Ward-Smith, 1985), giving a total increase of 10 cm.

In conclusion, Run-up speed has a strong influence on long jump performance and so speed training and strength training are essential components of a long jumper's training program. The use of results from cross-sectional studies may lead to inappropriate or inaccurate conclusions for the individual athlete.

## 2.10. BIOMECHANICS OF THE LONG JUMP

The basic technique used in long jumping has remained unchanged since the beginning of modern athletics in the mid-nineteenth century. The athlete sprints down a runway, jumps up from a wooden take-off board, and flies through the air before landing in a pit of sand. A

successful long jumper must, therefore, be a fast sprinter, have strong legs for jumping, and be sufficiently coordinated to perform the moderately complex take-off, flight, and landing maneuvers. The best women long jumpers achieve distances of about 6.5–7.5 m, whereas the best men (who are faster and stronger) reach about 8.0–9.0 m. The objectives in each phase of the jump are the same regardless of the athlete's gender or ability. To produce the greatest possible jump distance the athlete must reach the end of the run-up with a large horizontal velocity and with the take-off foot placed accurately on the take-off board. During take-off the athlete attempts to generate a large vertical velocity while minimizing any loss of horizontal velocity, and in the flight phase the athlete must control the forward rotation that is produced at take-off and place their body in a suitable position for landing. During the landing the athlete should pass forward of the mark made by their feet without sitting back or otherwise decreasing the distance of the jump. A review of the most important biomechanical factors influencing technique and performance in the long jump are.

Run-up

The run-up phase is crucial in long jumping; it is impossible to produce a good performance without a fast and accurate run-up. The three main tasks of the athlete during the run-up are: to accelerate to near-maximum speed, lower the body during the final few steps and bring it into position for take-off, and place the take-off foot accurately on the take-off board.

Run-up velocity

In long jumping, the distance achieved is strongly determined by the athlete's horizontal velocity at the end of the run-up. To produce a fast run-up, most long jumpers use 16–24 running strides performed over a distance of about 35–55 m. By the end of the run-up the athlete reaches about 95–99 per cent of their maximum sprinting speed. Long jumpers do not use a longer run-up length that gives 100 per cent sprinting speed because the advantage of a faster run-up speed is outweighed by the increased difficulty in accurately hitting the take-off board (Hay, 1986). Faster athletes tend to use a longer run-up because it takes them longer to build up to their maximum sprinting speed. Most long jumpers start their run from a standing position with one foot forward of the other. Some athletes prefer to take several walking strides onto a check mark before accelerating. However, this technique is believed to produce a less consistent velocity profile and hence a less accurate run-up.

Studies of competition jumps have consistently found high correlations between run-up velocity and jump distance (Hay, 1993). However, one must recognize that the slope of a regression line from a multiple-athlete study does not indicate the expected rate of improvement in jump distance for an individual athlete. The main cause of variations in jump distance among athletes is probably differences in muscular strength. The slope of the regression line in a multiple-athlete study therefore indicates how an individual's jump distance changes in response to a change in muscular strength, rather than how the jump distance changes with run-up velocity. For the individual athlete the relation between jump distance and run-up velocity is not quite linear according to (Bridgett and Linthorne, 2006).

Run-up accuracy

To produce the best possible jump distance, a long jumper must place their take-off foot close to, but not over, the take-off line that is marked by the front edge of the take-off board.

The long jump run-up has two main phases; an acceleration phase during which the athlete produces a stereotyped stride pattern; and a 'zeroing-in' phase during which the athlete adjusts their stride pattern to eliminate the spatial errors that have accrued during the first phase (Hay, 1988). During the last few strides before take-off, the athlete uses their visual perception of how far away they are from the board as a basis for adjusting the length of their strides. Top long jumpers start using a visual control strategy at about five strides before the board and are able to perform the stride adjustments with only a small loss of horizontal velocity. Athletes of lesser ability tend to have a greater accumulated error and anticipate their stride adjustment later than highly-skilled jumpers. Many long jumpers use a checkmark at 4–6 strides before the board so that their coach can monitor the accumulated error in the first phase of the run-up.

Transition from run-up to take-off

Skilled long jumpers maintain their normal sprinting action up until about two to three strides before take-off as (Hay and Nohara, 1990) suggested. The athlete then begins to lower their centre of mass (COM) in preparation for the take-off. A low position into the take-off is necessary to give a large vertical range of motion (ROM) over which to generate upwards velocity. The athlete lowers their COM to the required height and tries to keep a flat trajectory in the last stride before take-off. This ensures that the athlete's COM has minimal downward vertical velocity at the instant of touchdown and so the upwards vertical impulse exerted by the athlete during the take-off produces the highest possible vertical velocity at the instant of take-off.

Most long jumpers spend a lot of time practicing to lower their COM while minimizing any reduction in run-up velocity.

The entry into the take-off is usually performed using a 'pawing' action, where the take-off leg is swept down and back towards the athlete as (Koh and Hay, 1990) investigated. The take-off foot has a negative velocity relative to the athlete's COM, but the velocity of the foot relative to the ground is not quite reduced to zero (about 4–5 m/s). This 'active' landing technique is believed to reduce the braking force experienced by the athlete during the initial stages of the take-off.

Take-off

Although long jump performance is determined primarily by the athlete's ability to attain a fast horizontal velocity at the end of the run-up, the athlete must also use an appropriate take-off technique to make best use of this run-up velocity. Long jumpers place their takeoff foot well ahead of their COM at touchdown to produce the necessary low position at the start of the take-off. The jumper's body then pivots up and over the take-off foot, during which time the take-off leg rapidly flexes and extends. Long jumping is essentially a projectile event, and the athlete wishes to maximize the flight distance of the human projectile by launching it at the optimum take-off velocity and take-off angle. In launching the body into the air, the athlete desires a large horizontal velocity at take-off to travel forward and a large vertical velocity to give time in the air before landing back on the ground. A fast run-up produces a large horizontal take-off velocity, but it also shortens the duration of the ground contact and hence the ability of the athlete to generate a vertical impulse (force integrated over time). To increase the duration of the foot contact, the athlete plants their foot ahead of the COM at touchdown. However, the resulting increase in vertical propulsive impulse is accompanied by an undesirable increase in horizontal braking impulse.

Therefore, there is an optimum leg angle at touchdown which offers the best compromise between vertical propulsive impulse and horizontal braking impulse. In the long jump, the optimum take-off technique is to run up as fast as possible and plant the take-off leg at about 60–65˚ to the horizontal according to (Bridgett and Linthorne, 2006; Seyfarth, Blickhan, and Van Leeuwen, 2000).

Take-off mechanism

Just before touchdown the athlete pre-tenses the muscles of the take-off leg. The subsequent bending of the leg during the take-off is due to the force of landing, and is not a deliberate

yielding of the ankle, knee, and hip joints. Flexion of the take-off leg is unavoidable and is limited by the eccentric strength of the athlete's leg muscles. Maximally activating the muscles of the take-off leg keeps the leg as straight as possible during the take-off. This enables the athlete's COM to pivot up over the foot, generating vertical velocity via a purely mechanical mechanism. Over 60 per cent of the athlete's final vertical velocity is achieved by the instant of maximum knee flexion, which indicates that the pivot mechanism is the single most important mechanism acting to create vertical velocity during the take-off as (Lees, Fowler, and Derby, 1993; Lees, Graham-Smith, and Fowler, 1994) explained. The knee extension phase makes only a minor contribution to the generation of vertical velocity, and the rapid plantar flexion of the ankle joint towards the end of the take-off contributes very little to upward velocity. Long jumpers spend a lot of time on exercises to strengthen the muscles of their take-off leg. Greater eccentric muscular leg strength gives the athlete a greater ability to resist flexion of the take-off leg, which enhances the mechanical pivot mechanism during the take-off and hence produces a greater take-off velocity.

The stretch-shorten cycle, where the concentric phase of a muscle contraction is facilitated by a rapid eccentric phase, does not play a significant role in the long jump take-off according to (Hay, Thorson, and Kippenhan, 1999). Rather, fast eccentric actions early in the take-off enable the muscles to exert large forces and thus generate large gains in vertical velocity. In the long jump take-off the instant of maximum knee flexion is a poor indicator of when the extensor muscles of the take-off leg change from eccentric activity to concentric activity. In long jumping, the gluteus maximus is active isometrically at first and then concentrically; the hamstrings are active concentrically throughout the take-off; rectus femoris acts either isometrically at first then eccentrically or eccentrically throughout the take-off; and the vasti, soleus, and gastrocnemius act eccentrically at first and then concentrically. The explosive extension of the hip, knee, and ankle joints during the last half of the takeoff is accompanied by a vigorous swinging of the arms and free leg. These actions place the athlete's COM higher and farther ahead of the take-off line at the instant of take-off, and are also believed to enhance the athlete's take-off velocity. Some athletes use a double-arm swing to increase the take-off velocity, but it is difficult to switch smoothly without loss of running velocity from a normal asynchronous sprint arm action during the run-up to a double-arm swing at take-off.

Take-off angle

It is well known that take-off angles in the long jump are substantially less than the 45˚ angle that is usually proposed as the optimum for a projectile in free flight. Video measurements of world-class long jumpers consistently give take-off angles of around 21˚. The notion that the optimum take-off angle is 45˚ is based on the assumption that the take-off velocity is constant for all choices of take-off angle. However, in the long jump, as in most other sports projectile events, this assumption is not valid. The take-off velocity that a long jumper is able to generate is substantially greater at low take-off angles than at high take-off angles and so the optimum take-off angle is shifted to below 45˚ according to (Linthorne, Guzman, and Bridgett, 2005).

From a mathematical perspective the athlete's take-off velocity is the vector sum of the horizontal and vertical component velocities, and the take-off angle is calculated from the ratio of the component velocities. A take-off angle of 45˚ requires that the horizontal and vertical take-off velocities are equal in magnitude. The maximum vertical velocity an athlete can produce is about 3–4 m/s (when performing a running high jump), but an athlete can produce a horizontal take-off velocity of about 8–10 m/s through using a fast run-up.

By deciding to jump from a fast run-up, the athlete produces a high take-off velocity at a low take-off angle. In long jumping, generating a higher take-off velocity gives a much greater performance advantage than jumping at closer to 45˚.

Take-off forces

During the take-off the athlete experiences a ground reaction force (GRF) that tends to change the speed and direction of the athlete's COM. The horizontal force during the take-off is predominantly a backwards braking force, and only for a very short time at the end of the takeoff does it switch over to become a forwards propulsive force. Because the braking impulse is much greater than the propulsive impulse, the athlete's forward horizontal velocity is reduced during the take-off (by about 1–3 m/s). The vertical GRF exerted on the athlete produces the athlete's vertical take-off velocity. The vertical force initially acts to reverse the downward velocity possessed by the athlete at touchdown, and then accelerates the athlete upwards. The athlete always experiences a slight reduction in upwards velocity in the last instants before take-off. This decrease occurs because the vertical force must drop down to zero at the instant of take-off. For a short time before take-off the vertical GRF is less than body weight and is therefore not enough to overcome the gravitational force on the athlete. Both the horizontal and vertical components of

the GRF display a sharp impact peak at touchdown when the takeoff leg strikes the ground and is rapidly reduced to near zero velocity.

As well as changing the speed and direction of the athlete's COM, the GRF tends to produce angular acceleration of the athlete's body about its somersaulting axis. The GRF produces a forward or backward torque about the athlete's COM depending on whether the line of action of the force passes behind or ahead of the COM as (Hay, 1993) explained. In the initial stages of the take-off the torque acts to produce backwards acceleration, but it soon changes to produce forwards acceleration. Overall, the athlete experiences a large forwards rotational impulse, and so the athlete leaves the take-off board with a large amount of forward somersaulting angular momentum. Forward angular momentum is consistently a source of difficulty for the athlete. Unless the jumper takes appropriate steps to control the angular momentum during the flight, excessive rotation of the body will reduce the distance of the jump by producing a landing with the feet beneath the body rather than extended well in front of the body.

Flight and landing

During the flight phase, most long jumpers either adopt a 'hang' position or perform a 'hitch-kick' movement (a modified running-in-the-air action). In both techniques the athlete's actions are designed to control the forward rotation that is imparted to the body at take-off and hence allow the athlete to attain an effective landing position as (Hay, 1993) examined.

The hang and hitch-kick techniques deal with the angular momentum during the flight phase in different ways. In the hang technique the athlete attempts to minimize the forward rotation of the body, whereas in the hitch-kick technique the athlete performs movements that actively counter the forward rotation.

In the hang technique the athlete reaches up with their arms and extends their legs downwards just after take-off. This extended body position gives the athlete a large moment of inertia (MOI) about their somersaulting axis and hence reduces the athlete's forward angular velocity. The athlete maintains the hang position for as long as possible during the flight so as to minimize the amount of forward rotation.

The hitch-kick technique involves using the motions of the arms and legs to evoke a contrary reaction of the trunk, thereby maintaining the athlete's upright posture in the air. The athlete rotates their arms and legs forward in a movement that is similar to running. Because the athlete is in free flight the athlete's total angular momentum must be conserved. The forward angular

momentum generated by circling the arms and legs forward is, therefore, countered by an equal backwards angular momentum in the trunk. The athlete is thus able to counter the forward rotation of the body that was developed in the take-off.

Long jumpers choose their flight technique according to the amount of angular momentum they generate during the take-off and the time they have available before landing.

Many coaches recommend the hang technique for athletes of lesser ability, who usually generate a lower angular momentum during the take-off and spend less time in the air. The hitch-kick is recommended for better athletes, who usually generate a higher angular momentum during the take-off and have a longer flight time. The hitch-kick technique has two main variants, '2½-step' and '3½-step', named according to the number of steps the athlete executes during the flight. Contrary to what is sometimes thought, the long jumper's forward circling actions in the air do not increase the distance of the jump by propelling the athlete through the air.

Towards the end of the flight phase the athlete prepares for landing by lifting their legs up and extending them in front of the body. The goal of the landing is to create the greatest possible horizontal distance between the take-off line and the mark made by the heels in the sand. The landing technique should not result in the athlete falling backwards into the pit or otherwise producing a mark that is closer to the take-off board than that made by the heels. There are several basic variations on landing technique, including the 'orthodox', 'slide-out' and 'swivel-out' techniques, but there is currently no consensus on the optimum technique that produces the longest jump distance according to (Hay, 1986).

Flight distance equation

The athlete's jump distance is measured from the take-off line to the nearest mark made by the athlete in the landing area. Jump distance may be considered as the sum of the take-off distance, the flight distance, and the landing distance.

Distance jump = distance take-off +distance flight +distance landing.

In most jumps the flight distance is about 90 per cent of the total jump distance. Therefore, the biomechanical factors that determine the athlete's flight distance are very important in long jumping.

During the flight phase of the jump the effects of gravity are much greater than those of aerodynamic forces and so the jumper may be considered as a projectile in free flight. The trajectory of the athlete's COM is determined by the conditions at take-off.

Optimum take-off angle

A long jumper's optimum take-off angle may be determined by using high-speed video to measure the athlete's relations between take-off velocity and take-off angle, v, and between relative take-off height and take-off angle, h (Linthorne, Guzman, and Bridgett, 2005). To obtain reliable measures of these relations the athlete must jump many times using a wide range of take-off angles (0–90˚). The highest take-off velocities are obtained when the jumper uses a fast run-up and then attempts to jump up as much as possible. However, long jumpers cannot attain take-off angles greater than about 25˚ using this technique. To achieve greater take-off angles the athlete must use a slower run-up and so the take-off velocity is reduced. In the extreme case of a near-vertical take-off angle, the run-up velocity must be reduced to walking pace and so the take-off velocity is at its lowest. The take-off height and landing height are determined by the athlete's body configuration.

Although the take-off and landing heights both increase with increasing take-off angle, the height difference between the two remains approximately constant.

In long jumping, the total jump distance is slightly more than the flight distance. However, the take-off and landing distances make relatively small contributions to the total jump distance and have little effect on the optimum take-off angle. Launching the body at close to the optimum take-off angle is essential for a successful long jump. The distance achieved by the jumper is sensitive to take-off angle, and so large deviations from the optimum take-off angle cannot be tolerated.

Run-up velocity and take-off technique

The most important determinant of success in long jumping is the athlete's ability to produce a fast run-up velocity and hence a fast takes-off velocity. Long jumpers, therefore, spend a lot of time developing their maximum sprint speed and improving their ability to get close to this maximum speed in the last stride before take-off. However, an athlete must make adjustments to their take-off technique in order to benefit from a faster run-up velocity.

Bridgett and Linthorne (2006) determined the relations between run-up velocity and takeoff technique by manipulating the run-up length used by an elite male long jumper.

A long jumper must use a straighter knee at touchdown in order to benefit from a faster run-up velocity. A straighter take-off leg has a smaller moment arm about the knee for the GRF and is,

therefore, more resistant to flexion. By preventing excessive flexion, less energy is dissipated by the leg muscles in eccentric contraction. A faster run-up speed also requires the athlete to use a slightly lower leg angle at touchdown.

The lower leg angle arises because a faster run-up velocity requires the athlete to increase the duration of the foot contact in order to maintain a high vertical take-off velocity. The athlete therefore plants the foot farther ahead of the COM at touchdown and hence has a lower leg angle.

Even though a long jumper performs actions during the take-off that are aimed at generating vertical velocity, the athlete is still able to transfer much of his run-up velocity through to horizontal take-off velocity. The resultant take-off velocity therefore steadily increases with increasing run-up velocity. In the long jump, the jumping action results in a reduction in horizontal velocity and this loss become greater as the run-up velocity is increased.

A long jumper produces a lower take-off angle at faster run-up velocities.

The take-off angle is determined by the ratio of the vertical velocity and the horizontal velocity. At all run-up velocities the optimum take-off strategy that produces the greatest jump distance is to generate close to the maximum possible vertical velocity. Changes in the take-off angle are therefore determined by changes in the horizontal velocity. Because the athlete's horizontal take-off velocity increases with increasing run-up velocity, the angle of the take-off velocity vector to the horizontal steadily decreases.

.Long jump shoes

Long jumpers use shoes that are designed specifically for the event. The shoes have several spikes positioned under the ball of the foot to give a firm grip on the board at take-off, and a beveled toe to help reduce the chances of marking the plasticine indicator board at takeoff.

Some companies manufacture long jump shoes with stiff soles under the balls of the feet. Studies of the foot during the stance phase of running and jumping have shown that the metatarsophalangeal joint flexes as the athlete rolls onto the forefoot and does not extend until after take-off. The metatarsophalangeal joint is, therefore, believed to be a large energy absorber as (Stefanyshyn and Nigg, 1998) examined. In shoes with stiff soles, the energy that is normally dissipated during the bending of the metatarsophalangeal joints at touchdown is stored in the sole and returned to the athlete during the take-off phase of the stride.

Shoes with stiff soles are expected to benefit the athlete in both the run-up and take-off phases of the jump. Experiments on sprinters with stiffening plates in their shoes showed an improvement

in sprinting speed of just over 1 percent (Stefanyshyn and Fusco, 2004). In the long jump, a 1 percent increase in run-up velocity produces a 6 cm increase in jump distance (Bridgett and Linthorne, 2006). About 60–100 J is believed to be absorbed in the metatarsophalangeal joint during a long jump take-off. A sole that stores and returns a large fraction of this energy to the athlete (say, 40 J) will increase the jump distance by about 10 cm.

Some shoe companies manufacture long jump shoes that have a tapered sole. The sole is thickest under the ball of the foot (13 mm; the maximum allowed by the rules) and thinnest under the heel. These shoes give the athlete an effectively longer leg during the take-off.

The advantage is maximized by making the difference between the length of the leg at touchdown (with the landing on the heel) and at the instant of take-off (on the ball of the foot) as great as possible. A longer take-off leg may give a biomechanical advantage by allowing the athlete to generate a greater take-off velocity, and hence produce a longer jump.

## 2.11. ADMINISTRATIVE FACTORS

The success of any organization is mainly depending on the administrative process. In the Addis Ababa first division athletics clubs, the primary responsible administrative bodies are the club administrators and the Addis Ababa athletics federation. For administrators to be successful being open to new technique and system is important.

As pestolesi and sincliar (1978) says, many administrators prefer the secure feeling of the traditional approach and become uncomfortable when involved in a new technique affecting organizational leadership. They also add that the only factor can keep the traditional administrator from becoming a creative person is unwillingness to change. This implies that administrators are expected to open their mind to new system. The research focuses on some of the administrative factors which have an influence in the long jump performance and presented as follows;

Facilities and Equipment

Facilities; are the backbone for the improvement of sport performance. Without the necessary facilities it is difficult to achieve the desired performance goals. As Siedntop (2007) says, facilities can be indoor running track, indoor and outdoor swimming pools, playing grounds are facilities for playing games, and convenient field is a facility for field events and so on. For long

jump the jumping area that is made from sand (i.e. the sand jumping pit) including an area for approach run with a minimum of 35m is required. The approach area can be lengthening up to 45m. To conduct a proper training, a track is also another demand. In short, it is necessary for clubs to have both a track and field to produce competent athletes.

As Mull et al. (1997) says, facilities in most settings receive multiple uses by many programs. For example, athletics and physical education may share facilities at colleges. For this, as they suggest what is required in the information about the facility's reservation policy that include how, when and where to reserve the facility, the amount of fees, eligibility requirements, and rules governing proper use of the facilities. Coaches must be therefore proper utilization of facilities.

In this regard, Olson (1997) says, that coaches of track and field, hockey, gymnastics, or swim teams that use facilities operated or owned by other schools or agencies must be physically present before and during practice and competitive activities. However, having own sport facilities is not an easy task. As Oslon (1997) says, planning a new athletic instructional or recreational facility is an exciting and challenging task that requires dedications to detail, selection of cost effective construction procedure and materials, and so on.

Equipment; Equipment is track and field which are used for long jump training include jumping shoe, hurdles, hanging bars, dumb bells, bench bar bell, camera, video, etc. Pestolesi et al. (1978; 198) says that facilities without adequate equipment are wasted financial commitments so that each administrators must seek to purchase safe quality equipment in order to provide the best possible Program for the athletes.

As stated by Mull et al. (1978), club members provide their own equipment, use what is available through the agency, or purchase it through the clubs. As briefly stated by Pestolesi et al. (1978), the purchase and maintenance of quality athletic equipment can do much to promote safety and keep injuries t o a minimum. Furthermore, the condition of equipment issued and administrative emphasis placed on controls will influence the attitude of the athletes. Equipment needs careful protection to be used longer. Once the items are purchased, the investment can best be protected by proper care, cleaning, and storage of equipment and supplies. Pestolesi et al. (1978) says that a facility without adequate storage can add the cost of the equipment over the

years. This indicates that having a storage space for equipment makes sport clubs beneficial. Clubs must give care for equipment and instruct their athletes for proper use. Because, athlete have significant role in order for equipment to have a long productive life.

# CHAPTER THREE

# RESEARCH METHOD AND PROCEDURES

This chapter deals with the method used for the study, sources of data, sampling procedures, instruments used for the data collecting procedures of the study and method of data analysis.

## 3.1. RESEARCH METHOD

The study tries to investigate factors that affect long jump performance in Addis Ababa first division athletics clubs. To this end the researcher uses a descriptive survey approach as the method of the study. This method is appropriate mainly to reveal the current state of the problem and together several kinds of data resulted to the subject under the study.

## 3.2. SUBJECTS/PARTICIPANTS.

The participants of the study were coaches, athletes and club administrators of Addis Ababa first division Athletics clubs. There were six athletics clubs under first division in Addis Ababa. All the clubs are also members of the national Athletics federation of Ethiopia. The researcher's uses four clubs using comprehensive sampling from the sample clubs, and all long jumpers(29 in number,11 of them are male and 18 of them are female) and their coaches (4 in numbers) in the sample clubs are participants of the study because the number is not difficult to manage. In addition the club administrators were included under the study as data sources.

## 3.3. SAMPLING PROCEDURES

The sampling procedures were made on the following six first division athletics clubs in Addis Ababa namely;

1. Mekelakay sport club.
2. Federal police sport club
3. Federal Maremia
4. Ethiopia Bankoch sport club
5. Mebrat-Hail sport club
6. Yemengist Betoch Agency Sport Club

Finally, all athletes (long jumpers) in the sample clubs and their coaches were included under the study as a source of data. Purposive sampling was also used in the study for selecting an interviewee from Addis Ababa first division Athletics clubs. .

### 3.4. INSTRUMENTS OF DATA COLLECTIONS

The researcher used questionnaire, interview and documentary sources as means of data collection.

- Questionnaire

The researcher used questionnaire as means of data collection instrument and developed according to the review of related literature and administered to coaches and athletes. The questionnaire aims at acquiring necessary information about some of the factors that affect long jump performance which are related to coaches & athletes.

The questionnaire prepared with dominantly close ended items and open-ended questions to help the respondents to explain their free feelings. At last the questionnaire will be distributed to the coaches and athletes of the sample clubs.

- Interview

The researcher conducted interview with coaches of the sample clubs with regard to issues that require clarifications. This helps to supplement the data obtained through questionnaire. The questionnaire is unstructured types to enable the interviewees to express themselves.

- Observation

In order to obtain information about availability of facilities and equipments, principles of training and style of coaching applied by the coaches, observation has been used by the researcher. Kumar (1999) pointed out “observation is one way of collecting primary data since purposeful, systematically planned recorded, is subjected to be checked, and it controls the validity and reliability of what to be observed” the main advantage of this method lies on elimination of bias.

- Documentary sources

The researcher used Documentary sources as a means of data collection since documentary sources could serve for a purpose in yielding information.

### 3.5. PROCEDURES FOR DATA COLLECTION

After designing the research instruments/questionnaire, interview and documentary sources/ the research sites and sample size of participants were identified. Lastly, the information gathered from different sources were tallied categorized and analyzed

### 3.6. DATA ANALYSIS

The results of data collected through questionnaire interview and document analysis were interpreted using percentage, count and descriptive statements

# CHAPTER FOUR

# ANALYSES AND INTERPRETATION OF DATA

This part of the study deals with presenting, analyzing and discussing the data collocated through questionnaires, interview and observation from sources. Furthermore, the main findings of the study are presented with the help of tables followed by descriptive statements for analysis.

## 4.1 ANALYSIS OF FINDINGS OBTAINED FROM ATHLETES THROUGH QUESTIONNAIRES, INTERVIEW AND OBSERVATION

Table 4.1.1: Background Information of athletes

| No | Item | Alternatives | Athletes | |
|---|---|---|---|---|
| | | | No | % |
| 1 | Sex | Male | 11 | 37.9% |
| | | Female | 18 | 62.1% |
| | | Total | 29 | 1oo% |
| 2 | Age | Below 18 | _ | _ |
| | | 18-20 | 10 | 34.5% |
| | | 21-23 | 13 | 44.8% |
| | | 24-26 | 3 | 10.35 |
| | | Above 26 | 3 | 10.35 |
| | | Total | | 1oo% |
| 3 | Educational level | Grade 8 complete | 18 | 62.1% |
| | | Grade 10 complete | 7 | 24.1% |
| | | Grade 12 complete | 4 | 13.8 |
| | | Diploma | _ | _ |
| | | Others | _ | _ |
| | | Total | | 100% |

According to Table 4.1.1 37.9% of respondents were males and the 62.1% of the respondents were females. Regarding to age of respondents, 44.8% and 34.5% of the athletes were found in

the age between 21-23 and 18-20 years old respectively, 10.35% the athletes were found in the age between 24-26 years old and the rest 10.35% of them were found above 26 years old. With regard to their grade level, out of the total 29 athletes, 62.1%, 24.1%, 13.8% were of grade 8, 10, and 12 complete respectively. Hence, most of them are found in grade 8 complete.

Table 4.1.2: Athlete's response towards long jump interest

| No | Item | Alternatives | Athletes | |
|---|---|---|---|---|
| | | | No | % |
| 1 | You become a long jumper with your interest? | A. yes | 9 | 31.04% |
| | | B. no | 20 | 68.96% |
| | | Total | 29 | 100% |
| 2 | If No for question no 1 Who insist you to join the club to be a long jumper? | A, Coach | 17 | 58.62% |
| | | B, Parent | _ | _ |
| | | C, Peer group | 3 | 10.34% |
| | | D, The love of the race | _ | _ |
| | | E, Media | _ | _ |
| | | F, If any other specify | _ | _ |
| | | Total | 20 | 68.96% |
| 3 | From where, you join this club? | A .Schools | 5 | 17.2% |
| | | B, While training private | 4 | 13.8% |
| | | C, sport projects | 4 | 13.8% |
| | | D, Clubs | 16 | 55.2% |
| | | Total | 29 | 100% |

According to Table 4.1.2 68.96% of respondents were not interested to be long jumper and 31.04 of the respondents were interested in the event. And 58.62% (68.96%) and 10.34% of the respondents was to become a long jumper due to coach and peer group influence respectively. Regarding to item 3, 17.2%, 13.8%, 13.8% and 55.2% of respondents join the club from school, training privately, sport projects and other clubs respectively. This shows the club must be given prior to athletics other clubs and projects to get the successor athlete.

Table 4.1.3: Athletes responses on information about talent scouting

| No | Item | Alternatives | Athletes | |
|---|---|---|---|---|
| | | | No | % |
| 4 | Do you have a piece of information about talent scouting process and selection criteria? | A Yes | 4 | 13.8% |
| | | B. No | 25 | 86.2% |
| | | Total | 29 | 100% |
| 5 | If yes for question No4; have you been identified as a "Talented" athlete? | A Yes | 4 | 13.8% |
| | | B. No | _ | _ |
| | | Total | 4 | 13.8% |
| 6 | If your answer is no for question No 4, by what means the coach select you? | A. I am a sprinter | 15 | 51.72% |
| | | B. I am a hurdler | 10 | 34.48% |
| | | C.I am soccer | _ | _ |
| | | Total | 25 | 86.2% |

As indicated in item 4 of table 4.1.3: 86.2% of the respondent's athlete replied that they have not information about talent scouting process and selection criteria. Whereas 13.8% of the respondents responded have information about talent scouting process and selection criteria of an athlete. This show as the athletes doesn't know how the athletes incorporate to the clubs. Regarding to item 5, 13.8% of them were selected as talented athletes. And to item 6, 51.72% and 34.48% of the athletes were selected by the coach using athlete's sprint and hurdler ability respectively. This indicates that, most of them were selected without selection criteria.

Table 4.1.4: Athletes response on the coaching styles of their coach

| No | Item | Alternatives | Athletes | |
|---|---|---|---|---|
| | | | No | % |
| 7 | Are you interested in the coaching style of your coach? | A. Yes | 9 | 31% |
| | | B. No | 20 | 69% |
| | | Total | 29 | 100% |
| 8 | Does your coach motivate you to keep on training and improve your performances? | A. Yes | 7 | 24.14 |
| | | B. No | 15 | 51.72% |
| | | C. Some times | 7 | 24.14 |
| | | Total | 29 | 100% |
| 9 | Does your coach use mental skill training? | A. Yes | 5 | 17.3% |
| | | B. No | 24 | 82.7% |
| | | Total | 29 | 100% |

As indicated in item 7 of table 4.1.4: 31% of athletes responded that they are interested to the coaching style of the coach but the rest of 69% of athletes responded that they are not interested to the coaching style of the coach. The athletes are the immediate centers of the training program. Therefore, the interest of athlete is a key factor for success in athletics. They should show their interest and be considered as the major actors and responsible bodies. Regarding to motivation of the coach to athletes during training 24.14% athletes said that the coach motivates them, 51.72% of the respondent says that never to motivate them and 24.14% of the respondent says that the coach motivates them sometimes. This indicates that the coach does not highly motivate their athletes. And 17.3% of the respondent responses the coach gives mental skill training while 82.7% of the respondent responses the coach does not give mental skill training. This shows that the coach does not give explanation about the event.

Table 4.1.5: Athletes response on motivation of them selves

| No | Item | Alternatives | Athletes | |
|---|---|---|---|---|
| | | | No | % |
| 10 | Do you motivate yourself to improve your skill? | A. Yes | 9 | 31.o3 |
| | | B. No | 2o | 68.97 |
| | | Total | 29 | 100% |

As indicated on the table 4.1.5: 68.97% of the athletes were not motivating themselves to improve their skill and only 31.03% of them were motivating themselves to improve their skills. This shows that most of them were not interested to motivate themselves.

Table 4.1.6: Athletes response on training

| No | Item | Alternatives | Athletes | |
|---|---|---|---|---|
| | | | No | % |
| 11 | Do you have standardized training area? | A. Yes | 2 | 6.9% |
| | | B. No | 27 | 93.1% |
| | | Total | 29 | 100% |
| 12 | How do you get the training methods of your coach from the point of your age level? | A. Excellent | | |
| | | B. Very good | 2 | 6.9% |
| | | C .Good | 7 | 24.1% |
| | | D. Poor | 20 | 69% |
| | | Total | 29 | 100% |
| 13 | Do you think that your daily training improve your performance? | A. Yes | 11 | 37.9% |
| | | B. No | 18 | 62.1% |
| | | Total | 29 | 100% |
| 14 | How many times do your coaches give feedback during training session? | Always | _ | _ |
| | | Sometimes | 10 | 34.5% |
| | | Never | 19 | 65.5% |
| | | Total | 29 | 100% |

As indicated on table 4.1.6: 93.1% of the respondents say no standardized training area and 6.9% of them said had training area. This shows that training area should be available and suitable for the athletes. Concerning the daily training on item 12, 37.9% of them responded as the daily training improves their skill and 62.1% of them said the daily training is not able to improve their skill and performance. On the other hand concerning feedback from the coach the athletes responded as 34.5% of them said the coach give feedback sometimes and 65.5% of them responded as the coach never give feedback during and after training. This shows that the feedback is not enough for the athletes in order to improve their performance.

Table 4.1.7: Athletes response on club support and benefit

| No 15 | Item | Alternatives | | | | | | | | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Very poor | | Poor | | Good | | Very good | | Excellent | | | |
| | | No | % | No | % | No. | % | No | % | No | % | No | % |
| A | Food and sport drinks | _ | _ | 12 | 41.40 | 18 | 58.6 | | | | | 29 | 100 |
| B | Pocket money | _ | _ | 29 | 100 | _ | _ | _ | _ | _ | _ | 29 | 100 |
| C | Medication | _ | _ | 13 | 44.8 | 16 | 55.2 | _ | _ | _ | _ | 29 | 100 |
| D | Sport wear | _ | _ | 16 | 55.2 | 13 | 44.8 | _ | _ | _ | _ | 29 | 100 |
| E | Psychological support | _ | _ | 29 | 100 | _ | _ | _ | _ | _ | _ | 29 | 100 |
| F | Reward | _ | _ | 29 | 100 | _ | _ | _ | _ | _ | _ | 29 | 100 |

According to table 4.1.7: 58.6 % and 41.4% of the respondents responded on food and soft drink as good and poor respectively. Regarding to pocket money 100% of them responded as poor. Concerning medication 44.8 and55.2% of the respondents responded as poor and good respectively. On the other hand concerning sport wear 55.2% and 44.8% of the respondents responded as poor and good respectively. These shows there were a shortage of sport wears. All respondents on psychological support and reward responded as poor. This indicates that no any reward that is given for the athletes.

Table 4.1.8: Athletes' responses on communication

| No 16 | Item | Alternatives | | | | | | | | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Very poor | | Poor | | Good | | Very good | | Excellent | | | |
| | | No | % | No | % | No | % | No | % | No | % | No | % |
| A | Communication with coach | _ | _ | 9 | 31.04 | 20 | 68.96 | _ | _ | _ | _ | 29 | 100 |
| B | Communication with peer | _ | _ | _ | _ | 26 | 89.7 | 3 | 10.3 | _ | _ | 29 | 100 |
| C | Communication with administrator | 29 | 100 | _ | _ | _ | _ | _ | _ | _ | _ | 29 | 100 |

As indicated on table 4.1.8: 31.04% and 68.96% of the respondents responded on communication with coach as poor and good respectively. On the other hand 89.7% and 10.3% of the respondents responded on communication with peer as good and very good respectively and all athletes responded on communication with administration as very poor. This indicates there is less attention is given for athletes by administrators so this needs improvement for the success of the athletes.

Table 4.1.9: Athlete's response on opportunities of competition

| No | Item | Alternatives | Athletes | |
|---|---|---|---|---|
| | | | No | % |
| 17 | Have you ever got the opportunities to compete at different level? | A. Yes | 2 | 6.9% |
| | | B. No | 5 | 17.2% |
| | | C. Some times | 22 | 75.9% |
| | | Total | 29 | 100% |

As shown in item 18 of table 4.1.9: (75.9%) of athletes responded that they have got sometimes the opportunities to compete at different levels of competition, and 6.9% of them responded that they have got the opportunity to participate in deferent levels of computation and the rest 17.2% of them responded that they have not got the opportunity to participate in deferent levels of computation.

## 4.2 ANALYSIS OF FINDINGS OBTAINED FROM COACHES

Table 4.2.1 Background Information of Coaches

| No | Item | Alternatives | Coaches | |
|---|---|---|---|---|
| | | | No | % |
| 1 | Sex | Male | 3 | 75% |
| | | Female | 1 | 25% |
| | | Total | 4 | 100% |
| 2 | Age | Below 25 | _ | _ |
| | | 26-30 | 1 | 25% |
| | | 31-40 | 2 | 50% |
| | | 41-50 | 1 | 25% |
| | | Above 51 | _ | _ |
| | | Total | 4 | 100% |
| 3 | Marital status | Single | _ | _ |
| | | Married | 4 | 100% |
| | | Divorced | _ | _ |
| | | Widowed | _ | _ |
| | | Total | 4 | 100% |
| 4 | Educational background | 10 complete | _ | _ |
| | | 12 complete | 1 | 25% |
| | | Certificate in sport | _ | _ |
| | | Diploma in physical education | 2 | 50% |
| | | B.sc in physical education | 1 | 25% |
| | | M.sc in athletics | _ | _ |
| | | Others | _ | _ |
| | | Total | 4 | 100% |
| 5 | Coaching experience | One –two years | _ | _ |
| | | Three –five years | 1 | 25% |
| | | Six –ten years | 2 | 50% |
| | | Above ten years | 1 | 25% |
| | | Total | 4 | 100% |

As shown in Table4.2.1: majorities (75%) of coaches in the clubs were males and only 25% of them were female. Regarding to the age of the respondents 25% of the coaches were found in between the age of 26-30 years and 50% of the coaches were found in between the age of 31-40 years old. The rest 25% were found in between the age of 41-50 years old. According to their marital status 100% of the coaches were married.

Concerning their qualification, 25% of the coaches were 12 complete; while 50% of them were diploma holders and 25% of the respondent coaches were B.sc in physical education. In the case of experience of respondents, the majority 50% of them have in between the 6-10 years experience, 25% of the coaches have in between the 3-6 service years and 25% of the coaches have above 10 service years. In general, more than half of the respondent coaches have above six years of experience. Thus, it was assumed that they have helpful experience for this study

Table 4.2.2 Coach responses on their inspiration on coaching

| No | Item | Alternatives | Coaches | |
|---|---|---|---|---|
| | | | No | % |
| 1 | What inspire you to become a coach of a field event long jump? | A. concern of nationality | - | |
| | | B. employability | 4 | 100% |
| | | C. Affection to athletics sport | - | _ |
| | | D. media | - | _ |
| | | If any other, specify | - | _ |
| | | | 4 | 100% |

As shown on table 4.2.2: 100% of the coach responded as they inspire as the coach of a field event long jump due to employability. This indicates there is a problem on interest of the coach.

Table 4.2.3: Coach's response on short term course coaching athletics

| No | Item | Alternatives | Coaches | |
|---|---|---|---|---|
| | | | No | % |
| 2 | Have you taken any short term course in coaching athletics? | A .yes | 4 | 100% |
| | | B. No | _ | _ |
| | | Total | 4 | 100% |
| 3 | If yes for question No 2 Is the course you attended relevant for coaching athletics? | A .yes | 4 | 100% |
| | | B. No | - | - |
| | | Total | 4 | 100% |

As indicated on the table 4.2.3: on item 2 all coaches (100%) of them responded as they took short term course in coaching athletics and on item 3 all coaches (100%) of them responded as the course that they took is relevant for coaching athletics. From the above analysis all coaches had got the chance of updating themselves, this helps for improving their coaching ability or competence.

Table 4.2.4: Coach's response on talent scouting procedure in selection of athletes

| No | Item | Alternatives | Coaches | |
|---|---|---|---|---|
| | | | No | % |
| 4 | As a coach, do you follow talent scouting procedure in selection of athletes? | A .yes | 4 | 100% |
| | | B. No | | |
| | | Total | 4 | 100% |
| 5 | What is your selection criterion of athletes? | A. Athletes current Performanc e | 2 | 50% |
| | | B. Body type of the athletes' | | |
| | | C. Athletes' interest | 2 | 50% |
| | | D. If any other specify | | |
| | | Total | 4 | 100% |

As indicated in item 4 table 4.2.4: 100% of the coaches responded as they follow talent selection procedures for selecting their athletes and on item 5 50% of the coaches responded as an athlete's

current performance is one way of selecting athletes and on the other hand 50% of them respect athletes interest .But this shows that the coaches have not normal election procedures, so this have great factor on the performance of athletes.

Table 4.1.5: Coaches response on training plan and coaching system

| No | Item | Alternatives | Coaches | |
|---|---|---|---|---|
| | | | No | % |
| 6 | . Do you have weekly, monthly and yearly training plan? | A .yes | 4 | 100% |
| | | B. No | _ | _ |
| | | Total | 4 | 100% |
| 7 | If your answerer for question No 6 is “yes”, do you follow the training plan while coaching? | A .yes | 4 | 100% |
| | | B. No | _ | _ |
| | | Total | 4 | 100% |
| 8 | On the basis of your experience do you use appropriate age related coaching system? | A .Strongly agree | 1 | 25% |
| | | B. Agree | 3 | 75% |
| | | C. Disagree | _ | _ |
| | | D. Strongly disagree | _ | _ |
| | | Total | 4 | 100% |

From the above table 4.2.5: 100% of the coaches they have training plan and all of the coaches used this training plan for coaching the athletes. On the other hand concerning the coaching system of the coaches 25% of responded as the coach used age related coaching system. So the coach implements the training plan properly as possible, this helps athletes to improve their performance.

Table 4.1.6: Coach Responses on Principles of Training during Practice

| No | Item | Alternatives | Coaches | |
|---|---|---|---|---|
| | | | No | % |
| 9 | How many training days do you have per week? | A. One days | _ | _ |
| | | B. Two days | | |
| | | C. Three days | 4 | 100% |
| | | D. Four days | _ | _ |
| | | E. Five days | _ | _ |
| | | Total | 4 | 100% |
| 10 | How long is each training session? | A. One hour | _ | _ |
| | | B. Two hour | _ | _ |
| | | C. Three hour | _ | _ |
| | | D. Four hour | _ | _ |
| | | E. It depends on the content | 4 | 100% |
| | | Total | 4 | 100% |
| 11 | Do you incorporate the components of training during practice? | A .yes | 4 | 100% |
| | | B. No | _ | _ |
| | | Total | 4 | 100% |

As shown on table 4.2.6: concerning training days 100% of the coach said three days per week trained their athletes and the training session is given according to the content of the training. Regarding to components of training all coach responded as100% of them used components of training during practice

Table 4.2.7: Responses of coaches on supervision by concerned bodies

| No | Item | Alternatives | Coaches | |
|---|---|---|---|---|
| | | | No | % |
| 12 | Are the concerned bodies provides supervision service for the program? | A .yes | _ | _ |
| | | B. No | 4 | 1oo% |
| | | Total | 4 | 1oo% |

As indicated on the above table 4.2.7: 100% of the respondents said that did not observe any supervision service from the concerned bodies for the program, so this is also a problem on the sport program and development. The concerned bodies should assess and supervise the program for the successful of the athletes and coaches.

Table 4.2.8: Response of coaches on coaching fee

| No | Item | Alternatives | Coaches | |
|---|---|---|---|---|
| | | | No | % |
| 13 | Does the coaching fee motivate you to do all your best? | A .yes | _ | _ |
| | | B. No | 4 | 100% |
| | | Total | 4 | 100% |

As shown above table 4.2.8: 100% of the coach responded as the coaching fee did not motivate them to do their work effectively, so this indicates there is a problem on the work of coaching and the coaches did not give the training properly with interest, so this is a great negative factor for the performance of athletes.

Table 4.2.9: Response of coach on athlete assessment

| No | Item | Alternatives | Coaches | |
|---|---|---|---|---|
| | | | No of Respondents | Respondents in % |
| 14 | Do you continuously assess the performance of your athlete? | A .yes | 1 | 25% |
| | | B. No | _ | _ |
| | | C. Some times | 3 | 75% |
| | | Total | 4 | 100% |

As shown in item 15 of table 4.2.9: 75% of the coaches responded that they are measured and evaluate the athletes sometimes in to identify the athlete's performance. The rest 25% coaches responded that the athlete's performance were measured and evaluated continuously. This indicates most of the coaches did not assess their athletes continuously, so this is one factor that affects athlete's performance. Evaluation is not a final step, but an ongoing process that allows the coach's strategy to adapt to the changing demands of any training situation. Evaluation provides measurement and feedback that allows the coach and athlete to evolve over the course of the season.

Table 4.2.10: Response of coaches on training area of athletes

| No | Item | Alternatives | Coaches | |
|---|---|---|---|---|
| | | | No | % |
| 15 | Do you agree that the training field is convenient to conduct the training program? | A. Strongly agree | | |
| | | B. Agree | 2 | 50% |
| | | C. Disagree | 2 | 50% |
| | | D. Strongly disagree | _ | _ |
| | | D. Very low | _ | _ |
| | | Total | 4 | 100% |

Concerning item 16 of table 4.2.10: 50% of the coach agreed that the training area was convenient to conduct the training program and at the same time 50% of the coach replied that the training area was not convenient to conduct the training program.

## 4.3. ANALYSIS OF FINDINGS OBTAINED FROM CLUB ADMINISTRATORS THROUGH QUESTIONNAIRES.

Table 4.3.1: Background information of administrators

| No | Item | Alternatives | Administrator | |
|---|---|---|---|---|
| | | | No | % |
| 1 | Sex | Male | 4 | 100% |
| | | Female | __ | __ |
| | | Total | 4 | 100% |
| 2 | Age | Below 25 | __ | __ |
| | | 26-30 | 1 | 25% |
| | | 31-40 | 2 | 50% |
| | | 41-50 | 1 | 25% |
| | | Above 51 | __ | __ |
| | | Total | 4 | 100% |
| 3 | Marital status | Single | __ | __ |
| | | Married | 4 | 100% |
| | | Divorced | __ | __ |
| | | Widowed | __ | __ |
| | | Total | 4 | 100% |
| 4 | Educational background | 10 complete | __ | __ |
| | | 12 complete | __ | __ |
| | | Certificate in sport | __ | __ |
| | | Diploma in physical education | __ | __ |
| | | B.sc in physical education | 3 | 75% |
| | | M.sc in athletics | 1 | 25% |
| | | Others | __ | __ |
| | | Total | 4 | 100% |

As shown in Table4.3.1: all (100%) of administrators in the clubs were males. Regarding to the age of the respondents 25% of the administrators were found in between the age of 26-30 years and 50% of them were found in between the age of 31-40 years old. The rest 25% were found in between the age of 41-50 years old. According to their marital status 100% of the experts were married. Concerning their qualification, 75% of the administrators were B .sc in physical education while 25% of them were M.sc in athletics.

Table 4.3.2: Administrators response on the type of support from clubs

| No | Item | Alternatives | Administrator | |
|---|---|---|---|---|
| | | | No | % |
| 1 | Type of support from the club | A. Facilities and equipment | __ | __ |
| | | B. Provide pocket money for athletes and coaches | __ | __ |
| | | C. Financial support | __ | __ |
| | | D. Technical support | __ | __ |
| | | E. support all | 4 | 100% |
| | | Total | 4 | 100% |
| 2 | Do you think that the support you provide sufficient? | A. Yes | 1 | 25% |
| | | B. No | 3 | 75% |
| | | Total | 4 | 100% |

As indicate table 4.3.2: 100% of the respondent responded on the type of support from the club as pocket money for athletes and coaches, facility and equipment, financial and technical support. Concerning sufficiency of the supporting 25% of the respondent responses the supporting was sufficient. But the rest 75% of the respondent responses the supporting was not sufficient. The above statement indicates that the facilities and equipment, providing pocket money for athletes and coaches, financial and technical support was not sufficient. This decrease the interest and motivation of athletes.

Table 4.3.3: Administrators responses on supervision of athlete

| No | Item | Alternatives | Administrator | |
|---|---|---|---|---|
| | | | No | % |
| 3 | How many times you supervise the athletes to know their level of performance? | A. One times per month | __ | __ |
| | | B. Two times per six month | 2 | 50% |
| | | C. Two times per year | 2 | 50% |
| | | D. No supervision | __ | __ |
| | | E. If any other specify | __ | __ |
| | | Total | 4 | 100% |
| 4 | Do you set scheduled meeting program with sport commission, sport experts, and journalists to evaluate the present level of athletes? | A, Yes | 1 | 25% |
| | | B. No | 3 | 75% |
| | | Total | 4 | 100% |

As indicate item 3 table 4.3.3: 50% of the respondent responses indicates supervise the athlete to know their level of performance two times per six month and the rest 50% said two times per year supervise their athletes. Regarding to meeting scheduled meeting program with sport commission, sport experts, and journalists to evaluate the present level of athletes, 25% of the respondent responses there is a meeting program. But the rest 75% of the respondent responses there is no meeting program. This shows that most club administrators have no meeting schedule and discussion program in order to evaluate their athletes.

Table 4.3.4: Administrators responses on the monthly payment of coaches

| No | Item | Alternatives | Administrators | |
|---|---|---|---|---|
| | | | No | % |
| 5 | Do you agree that monthly payment for the coach is sufficient? | A, Strongly agree | __ | __ |
| | | B, Agree | 1 | 25% |
| | | C. disagree | 3 | 75% |
| | | D. Strongly Disagree | __ | __ |
| | | Total | 4 | 100% |
| 6 | Does the club facilitate upgrading course for the coach? | A, Yes | 4 | 100% |
| | | B. No | __ | __ |
| | | Total | 4 | 100% |

As indicate item 5 table 4.3. 4: 25% of the respondent responded as the monthly payment of the coach was sufficient. The rest 75% of the respondent responses the monthly payment of the coach was not sufficient. This indicates that the monthly payment of coaches was very low. Regarding to facilitating upgrading course for coach 100% of the respondent responded as the club facilitate upgrade course for coaches.

Table 4.3.5: Administrators response on selection procedures of coaches

| No | Item | Alternatives | Administrators | |
|---|---|---|---|---|
| | | | No | % |
| 7 | Do you have any formal selection procedure adopted for coaches? | A, Yes | 4 | 100% |
| | | B. No | __ | __ |
| | | Total | 4 | 100% |

The above table 4.3.5: indicates 100% of the respondents responded as that all clubs have formal coach selection procedure. This indicates in all clubs there are formal selection procedures.

Table 4.3.6: Administrators responses on factors that affect long jump performance

| No | Item | Alternatives | Administrators | |
|---|---|---|---|---|
| | | | No | % |
| 8 | What are the major factors that affect long jump performance? | A, Lack of good communication | _ | __ |
| | | B, Low attention given to the event | _ | __ |
| | | C, Lack of joints support | _ | __ |
| | | D, lack of qualified coach | _ | __ |
| | | E. all are factor | 4 | 100% |
| | | Total | 4 | 100% |

As item 8 table 4.3.6: 100% of the respondent responded as the major factors that affect long jump performance were lack of good communication, low attention given to the event, lack of joint support and lack of qualified coach. From the above analysis, all were factors that affect long jump performance so attention needs in order to solve the above problems.

## 4.4. ATHLETES, COACHES AND CLUB ADMINISTRATORS RESPONSES TO THE OPEN-ENDED QUESTIONS

In response to the open-ended question which required athletes, coaches and club administrators with regard to the problems and challenges that affect long jump performance of clubs, they suggested the following factors and solutions. The open ended questions focused on:

1. What are the main factors that affect long jump performance?

- The quality and quantity of training area.
- Lack of qualified coach in each event
- Lack of scientific training methods.
- Lack of interest from athletes.
- Lack of attention to the event from the concerned bodies.
- Less support on sport dress

2. What should be done to improve long jump performance?

Responding these question athletes, coaches and club experts suggested the following solutions:

- Hard work on the event
- Promoting clubs to have field event athlete
- Promoting projects to do in all athletic events
- Promoting athletic training program
- Giving attention for the event
- Employing qualified coaches for each event
- Preparing training area

## 4.5 ANALYSIS OF FINDINGS OBTAINED THROUGH INTERVIEW

Interview Report Obtained From Athletes and Coaches

The researcher conducted unstructured interview in face to face manner with athletes, and coaches place in order to get additional information about the existing problems and challenges of long jump performance in first division athletics clubs of Addis Ababa. Thus, the responses from the subjects summarized and presented in the following way.

The idea of monthly payment of the coach and interests of the athletes by first division athletics club coaches

Responses to the above issues were identical as a strong majority of coaches and reported a monthly payment of the coaches has a negative effect of athletic coaching for achievement as well as athletes attitude toward the coaches of first division clubs has its own negative impact. The majority of the club athletes are not willing to do by the coaches because the athletes is not interested in the coaching system and most athletes think that the coach is not qualified on the event.

The other faced problems and challenges are quality and quantity of training area, less attention given to the long jump event, lack of qualified coach for each event, attitude of athletes to the long jump event, training system and coaches influence on athletes were the main factor that affect long jump performance as indicated by coaches and athletes response from the interview.

## 4.6 ANALYSIS AND INTERPRETATION OF OBSERVATION OF TRAINING

Observation check list

Table 4.6.1: Observation of training in long jump on clubs

| | | V.good | Good | satisfactory | Unsatisfactory |
|---|---|---|---|---|---|
| 1 | Voluntariness of athletes to the coach. | | | ✓ | |
| 2 | Before or after practice, there is opportunity for exchange of ideas between athletes and coach | | | ✓ | |
| 3 | The coach attends every practice | ✓ | | | |
| 4 | Punctuality of coaches. | ✓ | | | |
| 5 | Practice sessions are well organized and demanding-both physically and mentally. | | | ✓ | |
| 6 | The coach treats each individual athlete | | | | ✓ |
| 7 | Methodology of training | | | ✓ | |
| 8 | Athletes are dressed properly | | | ✓ | |
| 10 | Principles of training | | | ✓ | |
| 11 | Approach run of athletes | | | | ✓ |
| 12 | Athletes take off | | | ✓ | |
| 13 | Flight | | | | ✓ |
| 14 | Landing | | | ✓ | |

As it was mentioned in the methodology section, practical training observation was conducted for 2 days. The observation checklist involved more of the coaches' duty, techniques of athletes during training and Voluntariness of athletes to the coach Methodology of training, application of principles of training. However, as indicated in table 4.6.1: some athletes were not obedient for

their coaches. Before or after practice, there is opportunity for exchange of ideas between athletes and coaches was satisfactory, Punctuality of coaches and the coach attends every practice were very good in general. Concerning the coach treats each individual athlete it is unsatisfactory. Regarding to methodology of training, athletes are dressed properly and Principles of training on the training area were satisfactory t. In addition to these the techniques of athletes during training like approach run and flight was unsatisfactory and the athletes take off and landing was satisfactory.

Therefore, it is difficult to think about effective training where there are these shortcomings in the process. Psychological improvements also result from physical exercise. During training, the athlete reacts to various stimuli, some of which may be predicted more certainly than others. Physiological, biochemical, psychological, social, and methodological information is collected from the training process. All this diverse information comes from the athlete and is produced by the training process. The coach, who builds the training process, may not always be in a position to evaluate it. However, we must evaluate all the feedback from the training process to understand the athlete's reactivity to the quality of training and properly plan future programs. Inlight of this, it becomes clear that coaches require scientific assistance to ensure that they base their programs on objective evaluation.

# CHAPTER FIVE

## SUMMERY, CONCLUSION AND RECOMMENDATIONS

This is the final part of the thesis which deals with the major findings, the conclusion reached at and the recommendations forwarded based on the findings.

### 5.1 SUMMERY

The major purposes of this study were to find out the challenges and factors that affect long jump performance in some selected first division clubs of Addis Ababa. To this achievement of this objective, the following basic questions were raised

1. What are the factors and challenges that affect long jump performance in A.A first division Athletics clubs?
2. What are coach related factors which influence long jump performance in A.A first division Athletics clubs?
3. What athlete's related factors that affect long jump performance?
4. What are the methods of training employed in the clubs?
5. What is the possible solution for the respected problems?

In order to answer the above questions, descriptive survey research method was employed. The data relevant to the study were collected through questionnaire; interview and observation checklists were employed.

This study used both qualitative and quantitative research approach. Therefore, the data obtained through questionnaire was analyzed quantitatively by percentage and the data collected through interview and observations were analyzed qualitatively to substantiate the quantitative analysis.

From the data analysis, the major findings obtained are summarized as follows

- There is a gap between the club and coaches. That means the coaches are not motivated by their monthly payment.
- The support from the club was inadequate.
- From the findings the major problems and factors that affect long jump performance are lack of scientific method of training and ignorant to the methodology of coaching. As

well as the problem of training area, Lack of qualified coaches for the event, Lack of scientific training methods, lack of psychological skill training.

- ❖ Most of the athletes for long jump were not selected according to talent scouting process and selection criteria, most of them selected according to their current performance. This was one factor and challenge for low performance of athletes in most clubs.
- ❖ Lack of motivation from coach, the concerned body and from their own was also a problem.
- ❖ Lacks of interest from athletes in the event because most athletes were join the event by the push of their coaches.
- ❖ Training area, training method of coaches, coaching styles and lack of competition among clubs were a major factor that affect long jump performance.
- ❖ Lack of attention for the long jump event and qualified coach for each event were also a major challenge for first division athletics clubs of Addis Ababa.
- ❖ Regarding to support and benefit from the clubs to the athletes, there was support and benefit like sportswear, pocket money, medication and others, but it is not satisfactory

## 5.2. CONCLUSION

In the light of the major findings those indicated above, the following conclusions are drowned.
The athletes are the immediate centers of the training program. Therefore, the interest of athlete is a key factor for success in athletics but the athletes was not interested on their event.
Coaching is a craft that is best learned practical experience; develop effective relationships with athletes and coaching colleagues, and through application of knowledge. Theory and methodology of training is a vast area. Closely observing the information available from each science will make coaches more proficient in their training endeavors.
There is a gap between the club and coaches. That means the coaches were not motivated by their monthly payment. The support from the club was inadequate. Regarding to support and benefit from the clubs to the athletes, there was support and benefit like sportswear, pocket money, medication and others, but it is not satisfactory. From the findings the major problems and factors that affect long jump performance are lack of scientific method of training and ignorant to the methodology of coaching. In addition to this, problem of training area, Lack of qualified coaches for the event, Lack of scientific training methods, lack of psychological skill training were also a factor. Most of the athletes for long jump were not selected according to talent scouting process

and selection criteria, most of them selected according to their current performance. This was one factor and challenge for low performance of athletes. Lack of attention for the long jump event, lack of qualified coach for each event and lack of interest from athletes in the event, because most athletes were join the event by the push of their coaches were also a major challenge for first division athletics clubs of Addis Ababa. Training area, training method of coaches, coaching styles and lack of competition among clubs were also a major factor that affect long jump performance.

## 5.3 RECOMMENDATION

Based on the conclusions derived from the findings of the data analyzed, the following recommendations were made as possible ways of curbing the problems observed

- Athletes must be selected according to their talent and interest to be effective in the field of athletics. Clubs must prepare selection criteria and procedures (talent scouting systems) in order to get appropriate athletes on the event and coaches should respect the interest of athletes rather than neglecting them.
- There should be good relationship among concerned bodies, coaches and athletes to work hard. There is low monthly payment for the coaches and athletes, so these decrease the interest and motivation of coaches and athletes on their career. This must be improved in all first division athletics clubs of Addis Ababa.
- Clubs must employ qualified coaches of athletics on each event because most of the coaches were not good at coaching field events and clubs must prepare upgrading courses for their coaches.
- Any training can be successful and effective if it supported with appropriate facilities and equipments. For example, there is a problem of training area or place on the long jump event for practice. Therefore, top administrative officials or management groups should give emphases to their clubs to accommodate and supply facilities and equipments.
- Athletics federation should promote clubs to have field event athlete, promoting projects to do in all athletic events and athletic training program.
- Athlete’s preparation is one of the coach's main objectives. The coach can accomplish this by establishing harmony in the athletes’ physical, technical, and strategic preparation. The

coach must establish such a concord for psychological preparation, meaning sound relationships, friendships, and common goals among athletes.

- Training competitions and social gatherings consolidate the athletes and enhance the feeling of belongingness. The coach must encourage the athletes to act as a unit and should establish specific plans and roles for each athlete according to the need of the athletes and clubs.
- Each individual has a place within the system, and a coach may attempt to enrich the system through his or her talents.
- By developing research, especially applied research, could enrich training knowledge how to improve methods of athlete evaluation, selection, peaking, and recovery and regeneration following training.
- All the concerned bodies should give attention for the long jump event and the athletes, motivating the athletes and coaches by giving reward was best mechanism to increase interest of athletes and coaches

# Bibliography


Abbott, A., & Collins, D. (2004). Eliminating the dichotomy between theory and practice in talent identification and development: Considering the role of psychology. *Journal of Sports Sciences, 22, 395*

Alexander, R.McN. (1990). Optimum take-off techniques for high and long jumps. *PhilosophicalTransactions of the Royal Society of London. Series B, 329, 3-10.*

Arampatzis, A., Brüggemann, G.P. and Walsch, M. (1999) 'Long jump'. in G.P. Brüggemann, D. Koszewski and H. Müller (eds.) *Biomechanical Research Project Athens 1997 Final Report*, Oxford:

Bartlett, R. (1999). *Sports Biomechanics: Reducing Injury and Improving Performance*. E & FN Spon, London.

Brown, J. (2001). Sport talent: How to identify and develop outstanding athletes. Champaign, IL: Human Kinetics.

Burrmann, U., Stucke, C., & Streso, J. (2007). Fitnessmaengel aufgrund von Mess-Artefakten? [Lack of fitness caused by measuring artifacts]. Sportwissenschaft, 37, 312-321.

Commission for Physical Culture and Sport of Ethiopia Bulletin, (1987), The 4th All African Games. Addis Ababa; Commercial Printing Press.

Fisher, R. J., & Borms, J. (1990). The search for sporting excellence. Schorndorf: Verlag Karl Hofman.

Gore, C. J. (Ed.). (2000). Physiological tests for elite athletes--Australian Sports Commission. Champaign, IL: Human Kinetics.

Greig, M.P. and Yeadon, M.R. (2000). The influence of touchdown parameters on the performance of a high jumper. *Journal of Applied Biomechanics,* 16, 367-378

Hackfort, D. (2006). A conceptual framework and fundamental issues for investigating the development of peak performance in sports. In D.Hackfort & G. Tenenbaum (Eds.), Essential processes for attaining peak performance (pp. 10-25). Aachen: Meyer & Meyer Sport.

Hay, J.G. (1986) 'The biomechanics of the long jump'. *Exercise and Sport Sciences Reviews*, 14: 401–46.

Hay, J.G. (1988) 'Approach strategies in the long jump'. *International Journal of Sport Biomechanics*, 4: 114–29.

Hay, J.G. (1993) ‘Citius, altius, longius (faster, higher, longer): The biomechanics of jumping for distance’. *Journal of Biomechanics*, 26 (Suppl 1): 7–21.

Hay, J.G. (1993). Citius, altius, longius (faster, higher, longer): the biomechanics of jumping for distance. *Journal of Biomechanics, 26*(Suppl. 1), 7-21.

Hay, J.G. and Koh, T.J. (1988) ‘Evaluating the approach in the horizontal jumps’. *International Journal of Sport Biomechanics*, 4: 372–92.

Hay, J.G. and Nohara, H. (1990) ‘Techniques used by elite long jumpers in preparation for takeoff’. *Journal of Biomechanics*, 23: 229–39.

Hay, J.G., Miller, J.A. and Canterna, R.W. (1986) ‘The techniques of elite male long jumpers’. *Journal of Biomechanics*, 19: 855–66.

Hay, J.G., Miller, J.A. and Canterna, R.W. (1986). The techniques ofelite male long jumpers. *Journal of Biomechanics, 19*, 855-866

Hay, J.G., Thorson, E.M. and Kippenhan, B.C. (1999) ‘Changes in muscle-tendon length during the take-off of a running long jump’. *Journal of Sports Sciences*, 17: 15

Koh, T.J. and Hay, J.G. (1990) ‘Landing leg motion and performance in the horizontal jumps I: The long jump’. *International Journal of Sport Biomechanics*, 6: 343–60

Kumer, R 1999 Research Methodology a step by step guide for beginner, California stage publication.Inc

Lees, A., Fowler, N. and Derby, D. (1993) ‘A biomechanical analysis of the last stride, touch-down and take-off characteristics of the women’s long jumps’. *Journal of Sports Sciences*, 11: 303–14.

Lees, A., Fowler, N. and Derby, D. (1993). A biomechanical analysis of the last stride, touchdown and take-off characteristics of the women's long jump. *Journal of Sports Sciences, 11*, 303-314.

Lees, A., Graham-Smith, P. and Fowler, N. (1994) ‘A biomechanical analysis of the last stride, touchdown, and takeoff characteristics of the men’s long jumps’. *Journal of Applied Biomechanics*, 10: 61–78.

Lees, A., Graham-Smith, P., Fowler, N. (1994). A biomechanical analysis of the last stride, touchdown, and takeoff characteristics of the men's long jump. *Journal of Applied Biomechanics, 10*, 61-78.

Lidor, R., Falk, B., Arnon, M., Cohen, Y., Segal, G., & Lander, Y. (2005). Measurement of talent in team-handball: The questionable use of motor and physical tests. *Journal of Strength and Conditioning Research, 19, 318 325.*

Linthorne N.P. (1994). The effect of wind on 100-m sprint times. *Journal of Applied Biomechanics,* 10, 110-131.

Linthorne, N.P., Guzman, M.S. and Bridgett, L.A. (2005) 'Optimum take-off angle in the long jump'. *Journal of Sports Sciences*, 23: 703–12

MACKENZIE, B. (2005) COACHING ROLES AND SKILLS [WWW] Available from: http://www.brianmac.co.uk/coachsr.htm [Accessed 24/5/2012]

Malina, R. M., Bouchard, C., & Bar-Or, O. (2004). Growth, maturation, and physical activity (2nd Ed.). Champaign, IL: Human Kinetics

Morris, T. (2000). Psychological characteristics and talent identification in soccer. *Journal of Sports Sciences, 18, 715-726.*

Morrow, J. R., Jackson, A. W., Disch, J. G., & Mood, D. P. (2005). Measurement and evaluation

Mull R.F, Bayless Kathryn G; Ross C.R, and Jamieson L.M, (1997). Recreational Sport Management (3rd Ed.) United States of America; Human kinetics.

Nitsch, J. R., & Hackfort, D. (1981).[Stress at school and university: A functional analysis based on action theory]. In J. R. Nitsch (Ed.), Stress. (pp. 263-311). Switzerland, Bern: Huber.

Nixdorf, E. and Brüggemann, G-P. (1990) 'Biomechanical analysis of the long jump'. in G.P. Brüggemann and B. Glad (eds.) *Scientific Research Project at the Games of the XXIVth Olympiad — Seoul 1988 Final Report*. Monaco: International Athletic Foundation

Nolan, L., Patritti, B.L. and Simpson, K.J. (2006) 'A biomechanical analysis of the long jump technique of elite female amputee athletes'. *Medicine & Science in Sports & Exercise*, 38: 1829–35.

Olson J.R.(1997), Facility and Equipment Management for sport directors. United States of America; Human Kinetics

Pestolesi R. R. and Sinclair W.A. (1978), Creating Administration in Physical Education and Athletics. United States of America; Prentie-Hll.

Reilly, T., Williams, A. M., Nevill, A., & Franks, A. (2000). A multidisciplinary approach to tale nt detection in soccer. *Journal of Sports Sciences, 18, 695-702.*

Seyfarth, A, Blickhan, R. and Van Leeuwen, J.L. (2000) 'Optimum take-off techniques and muscle design for long jump'. *Journal of Experimental Biology*, 203: 741–50.

Seyfarth, A., Blickhan, R. and Van Leeuwen, J.L. (2000). Optimum take-off techniques and muscle design for long jump. *Journal of Experimental Biology, 203*, 741-750.

Spamer, E. J., & Coetzee, M. (2002). Variables which distinguish between talented and less talented participants in youth sport--A comparative study. Kinesiology, 2, 141-152. Reilly, T.,

Sport and physical culture commission division of press and public relations (1980), Ethiopia Olympic Delegation to the 22nd Olympiad Addis Ababa Artistic Printer.

Stefanyshyn, D. and Fusco, C. (2004) 'Increased shoe bending stiffness increases sprint performance'. *Sports Biomechanics*, 3: 55–66.

Stefanyshyn, D.J. and Nigg, B.M. (1998) 'Contribution of the lower extremity joints to mechanical energy in running vertical jumps and running long jumps'. *Journal of Sports Sciences*, 16:177–86.

Stephen G.Miller(2004), Ancient Greek Athletics. New Haven University Press

Ward-Smith, A.J. (1985). The influence on long jump performance of the aerodynamic drag experienced during the approach and aerial phases. *Journal of Biomechanical Engineering*

Williams, A. M., Nevill, A., & Franks, A. (2000). A multidisciplinary approach to talent detection in soccer. Journal of Sports Sciences, 18, 695-702.

Young, W. (1995). Specificity of strength development for improving the takeoff ability in jumping events. *Modern Athlete and Coach, 33*(1), 3-8.

Internet
http://www.brianmac.co.uk/longjump/index.htm. Retrieved date 12/4/2012
http://www.teachpe.com/gcse_health/performance.php. Retrieved date 12/4/2012
http://usatffoundation.org/documents/LongJumpBrochure. Retrieved date 2/5/2012

# Appendix 1

## Addis Ababa University School of Graduate Studies

## Faculty of Science Department of Sport Science

**Written questionnaire prepared to be filled by the athletes**

Dear athletes, the purpose of this questionnaire is to collect information about the factors affecting and challenges of long jump performance in some selected Addis Ababa first division athletics club and to suggest affirmative solution and possible recommendation based on the findings. To get essential information, your honest and sincere cooperation in responding to each question is very important to meet the intended objective.

General direction

1. You do not need to write your name
2. Individual data will be kept confidential

Thank you for your heart felt cooperation in advance

**Instruction**

1. Fill in the given box by putting a symbol of right "√"
2. Choose the appropriate of your option from the given alternatives and circle if
3. For open ended questions, write brief and short answers

General profiles of the trainees

1. Sex Male ☐ Female ☐

2. Age _____

3. Educational level

Grad 12 complete ☐

Grad 10 complete ☐

Grade 8th complete ☐

If any other, specify _____

1. You become a long jumper with your interest?

A. Yes

B. No

2. If No for question 1: Who insist you to join the club to be a long jumper?

A. Coach
B. Parent
C. Peer group
D. The love of the game
E. Media

If any anther specify, _____

3. From where, you join this club?

A .School

B. From sport projects

C. While train private

D. Other Clubs

E. others

4. Do you have a piece of information about talent scouting process and selection criteria?

A. Yes

B. No

5. If yes for question 4; have you been identified as a “Talented” athlete?

A. Yes

B. No

6. If your answer is no for question 4, by what means the coach select you?

A. I am a sprinter

B. I am a hurdler

C. I am soccer

7. Are you interested the coaching style of your coach?

A. Yes

B. No

8. Does your coach motivate you to keep on training and improve your performances?

A. Yes

B. No

C. Some times

9. Does your coach give mental skill training?

A. Yes

B. No

10. Do you motivate yourself to improve skill?

A. Yes

B. No

11. Do you have standardized training area?

A. Yes

B. No

12. How do you gate the training methods of your coach from the point of your age level?

A. Excellent B. Very good

C. Good D. Poor

13. Do you think your daily training improve your performance?

A. Yes

B. No

14. How many times do your coaches give feedback during training session?

A. Always

B. Sometimes

C. Never

15. Put the (√) mark on the given alternatives

| No | Item | Alternatives | | | | |
|---|---|---|---|---|---|---|
| | | Very poor | Poor | Good | Very good | Excellent |
| A | Food and sport drinks | | | | | |
| B | Pocket money | | | | | |
| C | Medication | | | | | |
| D | Sport wear | | | | | |
| E | Psychological support | | | | | |
| F | Reward | | | | | |

16. Put the (√) mark on the given alternatives

| No | Item | Alternatives | | | | |
|---|---|---|---|---|---|---|
| | | Very poor | Poor | Good | Very good | Excellent |
| G | Communication with coach | | | | | |
| H | Communication with peer | | | | | |
| I | Communication with administrator | | | | | |

17. Have you ever got the opportunities to compete at different level?

A. Yes

B. No

C. Sometimes

18. What are the factors that affect long jump performance?

_____

_____

19. What are the possible solutions that you mention on the above factors?

_____

_____

# Appendix 2

## Addis Ababa University School of Graduate Studies

## Faculty of Science Department of Sport Science

**Questioners to be filled by coaches**

The main objective of this questionnaire is to collect data from some selected Addis Ababa first division athletics club to dig out the factors affecting and challenges of long jump performance and to set possible solution for enhancement of the training program and to indicate the concerned body to give attention to the club. A piece of information that obtained from you with this questionnaire is important for the success of the study undertaking and for the remedy that will be taken for the improvement of the result of the clubs and Ethiopian athletics.

I would like to extend my thanks for your cooperation in advance from the bottom of my heart.

General profiles of the coach

- You do not need to write your name
- Individual data will be kept confidential
- Put "√"mark on the box given for your answer
- For open ended questions, give short and precise response

General profiles of the coach

1. Sex Male ☐ Female ☐

2. Age _____

3. Marital status Single ☐ Married ☐ divorced ☐ owed ☐

4. Educational background

10 complete ☐

12 complete ☐

Certificate in sport ☐

Diploma in physical education ☐

B.sc in physical education ☐

M.sc in athletics ☐

If any other, specify _____

5. Coaching experience _____

1. What inspire you to become a coach of a field event of long jump?

A. Concern of nationality

B. Employability

C. Affection to athletics sport

D. Media

If any other, specify _____

2. Have you taken any short term course in coaching athletics?

A. Yes

B. No

3. If yes for question No 2, is the course you attended relevant for coaching athletics?

A. Yes

B. No

4. As a coach, do you follow talent scouting procedure in selection of athletes?

A. Yes

B. No

5. What is your selection criterion of athletes?

A. Athlete's current performance.
B. Body type of the athletes'.

C. Athletes' interest

D. If any other specify, _____

6. Do you have weekly, monthly and yearly training plan?

A. Yes

B. No

7. If your answerer for question No 6 is "yes", do you follow the training plan while coaching?

A. Yes

B. No

8. On the basis of your experience do you use appropriate age related coaching system?

A. Strongly agree
B. Agree
C. Disagree
D. Strongly dies agree

9. How many training days do you have per week?

A. One days
B. Two days
C. Three days
D. Four days
E. Five days

10. How long is each training session?

A. 1 hours
B. Two hours
C. Three hours
D. Four hours
E. It depends on the content

11. Do you incorporate the components of training during practice?

A. Yes

B. No

12. Are the concerned bodies provide supervision service for the program?

A. Yes

B. No

13. Does the coaching fee motivate you to do all your best?

A. Yes

B. No

14. Do you continuously assess the performance of your athlete?

A. Yes

B. No

15. Do you agree that the training field is convenient to conduct the training program?

A. Strongly agree

B. Agree

C. Disagree

D. Strongly disagree

16. What are the main factors that affect long jump performance of athletes' in your club?

_____

17. What should be done to solve the above factors that you mention?

_____

# Appendix 3

## Addis Ababa University School of Graduate Studies

## Faculty of Science Department of Sport Science

**Questionnaire to be filled by the club administrator**

**Dear Respondents!**

The main objectives of this questionnaire is to gather data from some selected Addis Ababa first division athletics club to assess the factors affecting and challenges of long jump performance and to suggest possible solution for the problems and improvement and to indicate the concerned body to give emphasis to the program. The data collected using this questionnaire is to be used only for academic purpose and all information gathered from the respondents will be helpful to get pertinent findings and to forward timely and sound recommendation. Your responses are confidential and are not used for any other purpose rather than this study. Therefore, in order to obtain relevant and reliable information that would contribute to the success of this study, I kindly request your cooperation to answer all the questions frankly as you feel.

**Tank you in advance!**

General direction

- You don't need to write your name
- Individual data will be confidential

Instruction

- Put the symbol of right "√" in the box given
- For open ended question, give short and precise response

General profile of club expert

1. Sex – Male ☐ Female ☐
2. Age_____
3. Marital status- single ☐ married ☐ ivorced ☐ vidowed ☐
4. Educational background
    A. Certificate
    B. Diploma
    C. B.sc
    D. No educational background

1. Type of support from the club
    A. Facilities and equipment
    B. Provide pocket money for youth
    C. Financial support
    D. Technical support  if any other specify _____
2. Do you think that the support you provide sufficient?
    A. Yes  B. No
3. How many times you supervise the athletes to know their level of performance?
    A. One times per month
    B. Two times per six month
    C. Two times per a year
    D. No supervision
    If any other specify_____
4. Do you set scheduled meeting program with sport commission, sport experts, and journalists to evaluate the present level of athlete performance?
    A. Yes  B. No
5. Do you agree that monthly payment for the coach is sufficient?
    A. Strongly agree  C. disagree
    B. Agree  D. Strongly Disagree
6. Does the club facilitate upgrading course for the coach?
    A. Yes  B. No
7. Do you have any formal selection procedure adopted for coaches?
    A Yes  B. No
8. What are the major factors affecting and challenges of long jump performance?
    A. Lack of good communication
    B. Low attention given to the projects
    C. Lack of joints support
    D. Knowledge of the coach.

9. What are the Factors that affect long jump performance, mention down.

_____

_____

10. What do you suggest to solve the factor that mentions above?

_____

_____

# Appendix 4

## አዲስ አበባ ዩኒቨርስቲ ድህረ ምረቃ ትምህርት

## እስፖርት ሳይንስ ትምህርት ክፍል

### በአትሌቶች የሚሞለ መጠይቅ

የተከበራችሁ አትሌቶች የዚህ መጠይቅ አላማ የሚሆነው በአዲስ አበባ የሚገኙ ጥቂት አትሌትክስ ክለቦች ላይ በመሰናክል ሩጫ ወቅታዊ ችግር ለማወቅ ና ጥናቱን መሠረት በማድረግ ችግራቸዉን ለመፍታት የሚያስቺሉ መንገዶቺን ለማስቅመጥ ነው። ይህ መጠይቅ ከዚህ አላማ ሌላ የማይውል መሆኑን ማሳሰብ እወዳለሁ። በመሆኑም የዚህ መረጃ መገኘት የናንተ ከውስጥ የመነጨ ትብብር ለአላማው መሳካት በጣም ጠቃሚ ነው።

***መመሪያ 1***

1. በዚህ መጠይቅ ስም መፃፍ አስፈላጊ አይደለም
2. የግል መረጃን ያለምንም ማመንታት መመላት

ከልብ የመነጨ ምስጋና እያቀረብኩ ወደዋናው መጠየቅ እገባለሁ።

***መመሪያ 2***

1. በተሰጠው ሳጥን ውስጥ "✓" ምልክት አድርግ/አድርጊ
2. ከተሰጠው አማራጭ ውስጥ አንዱን በመምረጥ አክብብ/አክብቢ
3. ማብራራት ለሚጠይቁ ጥያቄዎች አጭርና ግልፅ መልስ ስጥ/ስጪ

**አጠቃላይ ግለ ታሪክ**

1. ፆታ ወንድ ☐ ሴት ☐
2. እድሜ _____
3. የስልጠና ቆይታ 0-2 ዓመት ☐ 3-5 ዓመት ☐ 6-8 ዓመት ☐ ከ 9 ዓመት በላይ ☐
4. የትምህርት ደረጃ

   ሀ. አሥራ ሁለተኛ የጨረሰ/ች

   ለ. አሥር የጨረሰ/ች

ሐ. ስምንተኛ ክፍል የተማረ

መ. ተጨማሪ ካለ ይግለጹ_____

1. በራስህ/ሽ ፍላጎት ነው የመሰናክ፤ ሩጫ የሆንከው/ሽ

ሀ. አዎ ለ. አይደለም

2. ለተራ ቁጥር አንድ መልስ/ሽ አይደለም ከሆነ ማነው ወደዚህ ክለብ እንድትገቢ/ባ የገፋፋህ

ሀ. አሰልጣኜ መ. የመሰናክ፤ሩጫ ፍቅር

ለ. ቤተሰቤ ሠ. የብዙሃን መገናኛ

ሐ. ጓደኞቼ ረ. ተጨማሪ ካለ ይግለጹ _____

3. ከየት ነው ይህን ክለብ የተቀላቀልከው/ሽው?

ሀ. ከትምህርት ቤት ለ. ለግል እሩጫ ሐ. ከስፖርት ፕሮጀክት

መ. ከሌላ ክለብ ሠ. ሌላ ካለ ይግለጹ_____

4. ስለተሰጥኦ አመራረጥ መረጃ አለህ/ሽ?

ሀ. አዎን ለ. አይደለም

5. ለጥያቄ ቁጥር 4 መልስህ/ሽ አዎን ከሆነ አንተ/አነቺ የተመረጥከው/ሽው ልዩ የመሰናክል ሩጫ ተሰጥኦ ስላለህ ነው።

ሀ. አዎን ለ. አይደለም

6. ለጥያቄ ቁጥር 4 መልስህ/ሽ አይደለም ከሆነ የአንተ/የአንቺ አሰልጣኝ በምን መስፈርት መረጡህ/ሽ?

ሀ. አጭር እርቀት እሯጭ ስለሆንኩ

ለ. ከፍታ ዘላይ ስለሆኑኩ

ሐ. እግር ኪስ ተጫዋች ስለሆንኩ

7. በአሰልጣኝህ/ሽ የአሰለጣጠን ዘዴ ደስተኛ ነህ/ሽ?

ሀ. አዎን ለ. አይደለም

8. አሰልጣኝህ/ሽ በስልጠናህ/ሽ እንድትቆይ እንዲሁም እንድትበረታ/እንድትበረች ያደርጋል?

ሀ. አዎን ለ. አንዳንዴ ሐ. አይደለም

9. አሰልጣኝህ/ሽ የአዕምሮ ክህሎት ስልጠና ይሰጣል?

ሀ. አዎን ለ. አይደለም

10.ራስህ/ሽ ታበረታታለህ/ሽ ክህሎትህን/ሽ ለማዳበር?

ሀ. አዎን ለ. አይደለም

11.ደረጃውን የጠበቀ መለማመጃ ቦታ አላችሁ?

ሀ. አዎን ለ. አይደለም

12.የአሰልጣኝህ/ሽ የማሰልጠኛ ዘዴ ከአንቺ/ከአንተ ዕድሜ ጋር እንዴት አገኘሽው/አገኘኸው?

ሀ. እጅግ በጣም ጥሩ ሐ. ጥሩ

ለ. በጣም ጥሩ መ. ዝቅተኛ

13.የምትሰራው/ሪው የዕለት ስልጠና ብቃትህን/ሽ ከፍ ያደርጋል ብለህ/ሽ ተስባለህ/ሽ?

ሀ. አዎን ለ. አይደለም

14.በልምምድ ወቅት አሰልጣኝህ/ሽ ምን ያህል ጊዜ ግብረ መልስ ይሰጣል?

ሀ. ሁልጊዜ ለ. አንዳንዴ ሐ. አይሰጥም

15.ከክለቡ ከምታገኘው ጥቅም ወይም የድጋፍ ደረጃ በተሰጠው አማራጭ ላይ (✓) ምልክት አስቀምጥ/አስቀምጪ

| ተ.ቁ | መጠይቅ | በጣም አነስተኛ | አነስተኛ | ጥሩ | በጣም ጥሩ | እጅግ በጣም ጥሩ |
|---|---|---|---|---|---|---|
| 1 | ምግብና መጠጥ | | | | | |
| 2 | የኪስ ገንዘብ | | | | | |
| 3 | ህክምና | | | | | |
| 4 | የስፖርት ትጥቅ | | | | | |
| 5 | የስነ ልቦና ድጋፍ | | | | | |
| 6 | ሽልማት | | | | | |

16. በክለቡ ውስጥ እርስ በርስ ያላችሁ የግንኙነት ደረጃ በተመለከተ በተሰጠው አማራጭ ላይ (✓) ምልክት አስቀምጥ/አስቀምጪ

| ተ.ቁ | መጠይቅ | በጣም አነስተኛ | አነስተኛ | ጥሩ | በጣም ጥሩ | እጅግ በጣም ጥሩ |
|---|---|---|---|---|---|---|
| 1 | ከአሰልጣኝ ጋር ያለው ግንኙነት | | | | | |
| 2 | ከጓደኛህ ጋር ያለህ ግንኙነት | | | | | |
| 3 | ከክለቡ አስተዳደሮች ጋር ያለህ ግንኙነት | | | | | |

17. በተለያዩ የውድድር አይነቶች የመወዳደር ዕድል አግኝተሀል/ሽ

ሀ. አዎን ለ. አንዳንዴ ሐ. አይደለም

18. አሁን ያለው የመሰናክል ሩጫ ብቃት ማነስ ምክንያቱ ምን ይሆናል ብለህ/ሽ ታስባለህ/ሽ?

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_____

_____

19. በክለቦች የመሰናክል ሩጫ ብቃት ለማሳደግ አማራጭ መፍትሄዎች ምንድን ናቸው ብለህ/ሽ ታስባለህ/ሽ?_____

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## Appendix 5

**Addis Ababa University School of Graduate Studies**

**Faculty of Science Department of Sport Science**

Observation check list

| | | V.good | Good | satisfactory | Unsatisfactory |
|---|---|---|---|---|---|
| 1 | Voluntariness of athletes to the coach. | | | | |
| 2 | Before or after practice, there is opportunity for exchange of ideas between athletes and coach | | | | |
| 3 | The coach attends every practice | | | | |
| 4 | Punctuality of coaches. | | | | |
| 5 | Practice sessions are well organized and demanding-both physically and mentally. | | | | |
| 6 | The coach treats each individual athlete | | | | |
| 7 | Methodology of training | | | | |
| 8 | Athletes are dressed properly | | | | |
| 10 | Principles of training | | | | |
| 11 | Approach run of athletes | | | | |
| 12 | Athletes take off | | | | |
| 13 | Flight | | | | |
| 14 | Landing | | | | |

**DECLARATION**

I declare that this thesis is my original work, and has not been presented for a degree in any university and that all sources of material used for the thesis have been duly acknowledged.

Declared by confirmed by

Name_____ Name _____

Signature_____ Signature _____

This thesis has been submitted for examination by my approval as a university advisor

Name _____

Signature _____

Date of submission _____