

SPORTS PARTICIPATION AND ATHLETE DEVELOPMENT PATHWAY MODEL FOR TANZANIA

Introduction and Background Information

Sports Participation and Athlete Development Pathway Model (SPADPM) is both a framework for physical activity access for all members of a community and a progressive development that recognizes the typical phase of physical, mental, cognitive, and emotional development in child and youth athletes. It addresses the needs of those who are with or without impairment, and it also addresses both early and late developers (Bulamile, 2009 & 2002).

This model is:

1. Based on sport research and principles which have been widely studied over the world.
2. Dependent on an optimal training, competition and recovery program that stands on biological development and maturation against chronological age.
3. Coach driven and athlete centered.
4. Maintained by sports administration and sponsors.
5. Planned according to sport sciences to permit equal prospects for recreation and competition

6. Encouraging lifetime activity and wellness whilst promoting a training trail to possible medal performances for higher sports achievers

Research and principles in sport acknowledge the following;

1. The FUNdamentals

The FUNdamentals are basic movement and sport skills learned through fun games and play that engage and motivate children to continue in activity. The basic set of FUNdamental movement and sports skills is referred to as “physical literacy” and it incorporates activities such as skipping, hopping, jumping, throwing, catching, hitting, and swimming. These basics are fun in nature and serve purpose of teaching the essential skills required as a foundation for more complex physical activities and sports.

Physical literacy also implies that children need to have the cognitive ability to read and react to their sport environment to make correct decisions. It is important that all children develop a good base of these skills before puberty to optimize both future performance and lifelong activity.

2. Specialization

Sports can be graded as either early or late specialization. Sports such as gymnastics, diving, and jumps in athletics require early specialization for children to learn complex skills before physical maturation as it is difficult to fully master these skills if introduced after puberty. Late specialization sports such as football, netball, basketball, and handball can still be mastered for elite levels of competition if specialization begins between age 12 and 15, nevertheless it is essential that these athletes have already acquired physical literacy prior to adolescence.

3. Developmental Age

To understand child development, one has to define exactly what it means because different children develop at different rates. **Growth** and **maturation** are aspects of development often confused with each other. While **Growth** refers to measurable changes such as height, weight, and fat percentage, **Maturation** is a subtle qualitative change such as cartilage changing to bone. **Development** expresses the relationship between growth and maturation over time, including social, emotional, intellectual, and motor aspects. Correspondingly, **chronological age** refers to the number of years and days since birth, whereas **developmental age** refers to the degree of physical, mental, cognitive, and emotional maturity.

Keeping these growth and maturation concepts in mind, one has to be able to identify if a child is in an early, average, or late mature. Instructors can then ensure and design training and competition programs that fit the child's level of trainability and readiness.

Instructors also need to recognize the relative age effect. Research shows that selection to top-tier or representative teams favours children born in the first third of the year due to most sports having age cut-off dates based on the calendar year. If a child is born near the end of the year, instructors should ensure that the child is in a good program with excellent instruction, since research also shows that if children with late birthdays are kept in quality programs, their development catches up and they do succeed at a later age.

4. Physical, Mental, Cognitive, Ethical, and Emotional Development

SPADPM advocates that training, competition, and recovery programs should be designed to go with the physical, mental, cognitive, and emotional development of each athlete. Issues related to ethics, fair play, and character building should also be learned

em according to each child's and youth's ability to understand these concepts at different ages.

Late Childhood

Physical training, prior to puberty should underscore large muscle groups and basic coordination, with clear and brief instructions through structured routines. Children need accurate demonstrations of the correct skills. The development of children self-esteem and confidence requires a taste of success regularly; instructions should create several opportunities for success and children recognized regularly. It is at this point that ethical and character building values be integrated into the training system.

Early Adolescence

Children go through significant changes during early adolescence in bone, muscle, and fat tissue, as well as mental and emotional changes. At this point flexibility is mostly lost and become more prone to injuries. Mentally, children at this age can be instructed to make more decisions and take responsibility. Social relationships become more important, thus need opportunities to interact socially with peers. They have to be recognized for their success, although "success" may differ: early developers make quick progress, while late developers may make slower progress but actually may outperform the early developers in the long run.

Late Adolescence

Emotionally, older teens have needs for social interaction and self-expression that must be respected and physically have mature muscles, though muscular strength continues to increase into their 20s. At this point the rate at which they are able to develop new skills decreases. Mentally, they can understand the technical requirements

of the sport involved, on the other hand their increasing sense of fairness demands become part of decision-making processes.

5. Trainability

Trainability may be defined as a genetic endowment of athletes in relation to individual response to specific training stimuli and adaptation. Malina and Bouchard (1991) defined trainability as “the responsiveness of developing individuals at different stages of growth and maturation to the training stimulus.” This should be taken as an opportunity for children to develop stamina (endurance), strength, speed, suppleness (flexibility) skill and psychological traits, as part of the SPADPM and not a bottleneck towards failure.

6. Periodization

Time management applied to training in sporting activities is referred to as Periodization. It optimizes each child’s improvement over time by providing a logical training schedule that respects stages of development. Periodization plans specify how much and often athletes should train through the year, as well as describe a specific sequence of training components over weeks, days, and individual sessions.

7. Competition Calendar

SPADPM recommends that sports identify specific training to competition ratios for each stage of development. Every sport is unique, however in essence children should be neither training nor competing formally. As children get older and develop, they must progress from fun-based activities to a combination of formal training and competition. At juvenile ages, training time must far exceed competition time, however during adolescence competition time will increase and training time could decrease.

8. The 10-Year Rule

To achieve excellence in the long-term, young athletes have to put more hours into training than they do competing, as winning at a young age doesn't guarantee winning performances at older ages – and to ensure children train for the hours and years required, programs should emphasize fun, development, and wellness, and not necessarily winning. Sport science research has shown that it takes a minimum of 10 years or 10,000 hours of training for gifted athletes to achieve the highest levels of elite competition. This translates into approximately three hours of training or competition daily for 10 years for athletes who are identified as having a special talent in a particular sport or activity (Ericsson, *et al* 2007; U.S. Olympic Committee, 2002; Viru, 1995).

9. System Alignment

SPADPM strives to involve everyone in the sport structure on the same page: one country, one vision, one system. Since many different institutions, agencies, and groups are concerned in delivering sports programs, SPADPM advocates that parents, teachers, schools, communities, Instructors, clubs, Sports associations / federations, recreation centers, and government's bodies harmonize their hard work for the greatest welfare of the children in their programs. In this regard, SPADPM has big implications for the entire Tanzanian sport system.

10. Continuous Improvement

SPADPM is dynamic and open for ideas about child and sports development in Tanzania. It recognizes that new research is constantly emerging and recommends that new knowledge and insight should be reviewed and incorporated into the model as need arises. In this regard all sports stake holders have the responsibility to

be informed to new sports research findings and principles and share it with each other within the Tanzanian sports system.

Why do we need this model in Tanzania?

The Sports Participation and Athlete Development Pathway Model (SPADPM) is needed to provide the road map and tools for realizing the dream of making Tanzania an Active and Winning Nation. Currently, Tanzania sport system suffers from numerous shortcomings and challenges that negatively impact participation for all, athlete development, and the greater potential of sport as a transformational agent in our society.

“... Sport has the power to change the world. It has the power to inspire. It has the power to unite people in a way that little else can. Sport can awaken hope where there was previously only despair...” (Nelson Mandela, Laureus World Sports Ceremony: 2000).

Tanzania faces challenges that are shared by other Least Income Countries (LIC), in a different context. These include:

- Children do not have wide enough access to early, positive and fun experiences that will build their confidence and competence in fundamental movement and sport skills.
- Unhealthy, sedentary lifestyles are becoming a feature of Tanzanian life especially in urban areas.
- Many citizens lack knowledge of active and healthy lifestyles.
- Poor nutritional habits are common.
- Despite the nutritional challenges faced by many; obesity, childhood obesity, and childhood diabetes are dramatically increasing.
- There has been a lack of integration and communication among key stakeholders.

- Young athletes do not have sustained access to the right balance of high quality training and competition.
- Preparation and training is geared to the short-term outcome — winning — and not to sustained long-term achievement and participant retention.
- Chronological age rather than developmental age is used in training and competition planning.
- Instructors largely neglect or remain unaware of the sensitive periods of accelerated adaptation to training.
- The most knowledgeable instructors work at the elite level; volunteer's instructors at the developmental level where quality, trained instructors are essential.
- Training needs of athletes with impairment are not well understood
- A significant number of Parents, teachers, schools, communities and other stake holders are not educated about physical literacy and SPADPM
- In most sports, the competition system interfere with athlete development (lack of proper system and structure of competition)
- Sports informally specialize athletes too early in an attempt to attract and retain participants.
- Most stakeholders talk about / focus on talent identification and selection instead of access to physical activity for all, talent identification, selection and talent development

General Understanding of Talent Identification, Selection and development

Talent in ancient times meant ‘a great amount of money for which someone had to work for many years.’ The Van Dale dictionary mentions not just ‘gold or silver’ but also ‘a natural ability; capacity. In combination, these definitions imply that nature (‘genes’) and nurture (‘training’) go hand in hand (Tucker & Collins, 2012). There is a need to

operate a system that can be employed to predict accurately those children who are most likely to succeed in sport in the future and develop them.

Talent identification refers to the process of recognizing the potential to become an elite player among a group of participants. According to Hoare (1997) there are two mechanisms by which to approach talent identification for team sports.

1. To identify talent from within the sport, by testing athletes who are currently involved in sport, this mechanism is more precisely referred to as talent selection.
2. To identify athletes from outside of the sport who may have the necessary attributes (physical, physiological, skill) to succeed at a high level. This mechanism is talent detection.

Talent detection

Talent detection refers to the discovery of potential performers among those who are not currently involved in the sport in question. According to Salmela and Regnier (1993), talent detection refers to a process in which a long-term prediction is made that a given individual has the necessary attributes to achieve excellence in a specified sport.

Talent Selection

Talent selection refers to an ongoing process of identifying individuals currently playing a particular sport, who demonstrate prerequisite levels of performance needed for participation at more advanced levels

Talent Development

Talent development implies that players are provided with a suitable learning environment so that they have the opportunity to realize their potential. Talent development includes the provision of appropriate coaching, training and competition programs along with access to facilities, equipment and sports science/medicine support and Coaching

A great advantage to talent development is having convenient and available facilities in which to train and having knowledgeable coaches, especially during the formative years. Good coaches know when to push the athlete to work harder, when to reduce the intensity and pressure, and how to shape the athlete's career.

Current Talent Identification, Selection and Development in Tanzania

Generally speaking there has been no formal model / structure for talent identification and development in Tanzania most of what is done is the talent identification.

Talent identification and development is done in few primary and secondary schools which are privately owned, sports academies, sports clubs and associations / federations.

Talent identification and selection is done in the school system and out of the school systems;

In The School Systems

Talent identification is through school competitions.

There are few schools with proper systems in Physical Education and Sports; these have good infrastructure, physical education teachers, and set of competition each year. On the other hand, most schools have no

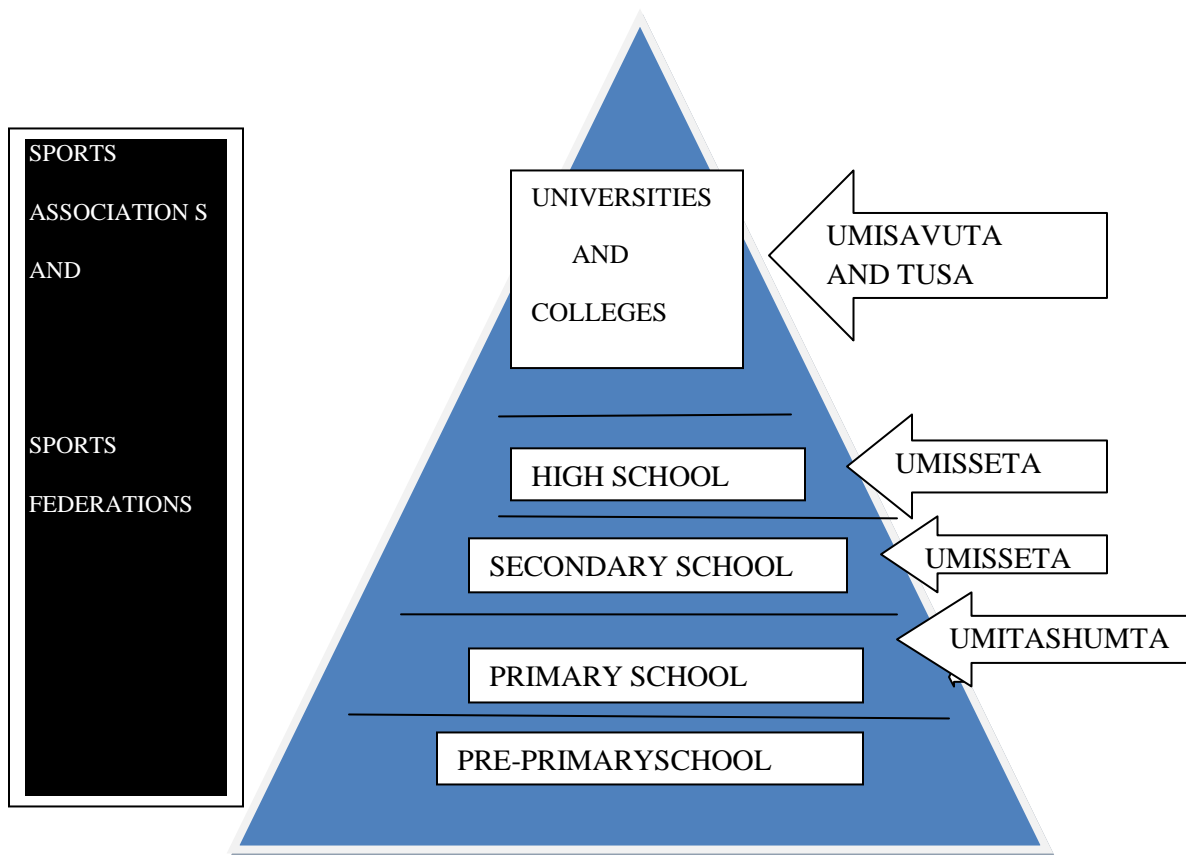
Physical Education Teachers, no enough facilities, limited number of physical activity and very few sports gears (Bulamile, 2011 & 2008).

In Community Systems

There are neither enough facilities nor equipment nor enough trained coaches, on top of that there is shortage of volunteerism and interests in sports. Some communities may have these resources but do not effectively utilize them.

In general, there is no formal system for talent development and on the other hand there are few skilled personnel for talent development. So far Tanzania, have some graduates at degree, diploma and certificate level however, they cannot fulfill the needs for the whole country.

Current Informal Model in Tanzania



The above model faces the following challenges:

1. There is no clear link of the above pathway with the out of school sports framework
2. There are no enough qualified PE teachers in most of the schools and very few schools do Physical Education
3. There are no sports programs for talent development for selected players after competition.

The above challenges have led to the establishment of the model that will give general steps for participant and athlete development pathway.

Proposed Model for Sports Participation and Athlete Development Pathway

The model is established to let the entire population of Tanzania participate in a variety of sporting activities. Some of these activities can be based in economical routines of the respective communities. SPADPM is not a rigid template rather provides a framework for planning and decision making on participants development.

Screening should be done through physical education and other sports programs. On the other hand, there should be means of developing sports specific qualities through systematic training programs: Coaching should consider talented athletes' health, physiological, adaptability to train, physical abilities and ability to cope with stress.

Parents, Schools, communities, Sports clubs, associations and federations should establish links with coaches to get the required information and to assist the athletes develop their talents.

Tanzania's SPADPM is designed to remedy over the current shortcoming in participation and athlete development within Tanzania

system. This model outlines clear pathways and guidelines for participant development and elite achievement, including core reference material and information to serve the development needs of each participant each stage.

The sports participation and athlete development pathway model is a seven stage model that provides a framework to align the energies and efforts of the major program providers as well as social and economic activities in Tanzania sport, such as

- Physical Education and school sports programs
- Clubs, communities, districts, regional, national programs, and
- High performance programs

The first three stages encourage physical literacy and sports for all

1. Active start
2. Fundamental
3. Learn to train

Physical literacy is a cornerstone for SPADPM as it provides the foundation for both mass sport participation and excellence.

Physical literacy provides the foundation of fundamental movement skills and fundamental sports skills; it also includes the ability to read what is going on around them in an active setting and react appropriately to those events.

The three stages should provide the foundation upon which participant and performance oriented sport are developed, in line with the choices and capabilities of sports participants.

The next three stages focus on excellence, to pursue high performance training for competition, for those choosing the performance oriented routes.

4. Train to Train
5. Train to compete
6. Train to win

The age ranges of participant in the train to train and train to compete may vary from sport to sport.

The seventh stage of sports participation and athlete development pathway cut across all stages in Tanzania society, supporting lifelong physical activities anytime after the first three stages have been completed.

7. Active for life

Below is a description of all the stages of the model. **It should be noted however that all these stages are embedded on Economic, Social and Leisure Activities such as fishing, hunting, peasantry, pastoralism, archery and so on.** A Tanzanian child and youth could acquire an important fundamental movement skill which is suitable at any of the stages in this model through such activities.

ACTIVE START

Males and Females (0-6 years); at this developmental age, male and female toddlers are at the stage of active start and the entry age do not differ. For this age category, physical activity is essential for healthy development and must become a part of the child's daily life. Physical activity for children at this stage should not be competitive rather focuses on participation orientation. It has to be noted that at this stage children are hardly sedentary for more than 60 minutes except when

sleeping. Hence, of primary importance is the active participation of children in physical activity in this stage.

Main Objectives targeting the child and guiding principles for the Coach/PE teacher at active start are;

- Fitness and movement skills development as a FUN part of daily life.
- Focuses on learning proper movement skills such as walking, running, jumping, skipping, wheeling, twisting, kicking, throwing, catching, etc.
- Daily and Some organized physical activity.
- Exploration of risk and limits in safe environments.
- Active movement environment combined with well-structured gymnastics and swimming programs.

FUNDAMENTALS

Males (6-9 years) and Females (6-8 years); at this developmental age, male and female toddlers are at the fundamental stage and the entry age differ as shown above. At this stage, children have to learn good sporting technique through short repetitions and entertaining exercises. Also, information shared or communicated to children should be limited only to what is essential. It has to be noted that competitions at this stage should be participation not winning oriented, thus creating a fun, safe, and joyful environment.

Main Objectives targeting the child and guiding principles for the Coach/PE teacher at Fundamentals stage are;

- Learn all Fundamentals movement skills and build overall motor skills.
- Play many sports, appropriate to developmental age.
- Focus on the ABCs of Athleticism: Agility, Balance, Coordination and Speed.
- Focuses on general, overall development.

- Integrated mental, cognitive, and emotional development.
- Elements of athletics: running, jumping, wheeling, twisting, kicking, catching, balancing and throwing.
- Include strength training exercises using the child's own body weight as well as Medicine and/or Swiss ball exercise.
- Introduce children to the simple rules and ethics of sport.
- No periodization, but well-structured programmes and practices.

LEARN TO TRAIN

Males (9-12 years) and Females (8-11years); at this developmental age, male and female children are at the Learn to Train stage and the entry age differ as shown above. At this stage, children have to develop physical fitness, reasonable basic technical and tactical skills as well as basic mental qualities.

Main Objectives targeting the child and guiding principles for the Coach/PE teacher at Learn to Train stage are;

- Learn overall sport skills.
- Acquire sport skills that will be the cornerstone of athletic development.
- Play a variety of sports focusing on developing skills in three sports in particular.
- Major skill learning stage: all basic movement and sport skills (physical literacy) should be learned before the Train to Train stage.
- Overall physical, mental, cognitive, and emotional development.
- Introduction to mental preparation.
- Include strength training exercises using the child's own body weight as well as Medicine and/or Swiss ball exercise.
- Introduce supplementary capacities such as warm up, cool down, stretching, hydration, etc.
- Introduce Single or double periodization depending on the sporting activities such as swimming and/or Tennis.

- Sport-specific training 3 times a week; participation in other sports 3 times a week.

TRAIN TO TRAIN

Males (12-16 years) and Females (11-15 years); at this developmental age, male and female young athletes are at the Train to Train stage and the entry age differ as shown above. At this stage, young athletes' performance capacities have to be raised by preparing them to be involved in identified competitions. Young athletes should showcase that they have reached high peaks in a year during these competitions.

Main Objectives targeting the young athlete and guiding principles for the Coach/PE teacher at Train to Train stage are;

- Build the engine – trainability is enhanced during maturational processes of puberty.
- Build an endurance base, develop speed and strength towards the end of the stage, and further develop and consolidate sport-specific skills.
- Select two favorite sports based on predisposition.
- Major fitness development stage: endurance, strength, and speed.
- Overall physical, mental, cognitive, and emotional development.
- Develop fundamental mental skills.
- Introduce free weights.
- Develop ancillary capacities as mentioned at the previous stage. The ratio of training to competition should be approximately 60% to 40% respectively.
- Frequent musculoskeletal evaluations during Peak Height Velocity or PHV (growth spurt).
- Single or double periodization.
- Sport specific training 6-9 times per week including complementary sports

TRAIN TO COMPETE

Males (16-23+ years) and Females (15-21 + years); at this developmental age, male and female athletes are at the Train to Compete stage and the entry age differ as shown above. At this stage, athletes are to be integrated to all performance factors in a complex and harmonious merge in order to execute on regular basis at indentified, major, domestic and international tournaments.

Main Objectives targeting the athlete and guiding principles for the Coach/PE teacher at Train to Compete stage are;

- Optimize fitness preparation and sport, individual, and position-specific skills and learn to compete internationally.
- Determine clear goals and indentify the path to reach them.
- Sport, event, position specific physical conditioning.
- Sport, event, position specific technical and tactical preparation.
- Sport, event, position specific technical and playing skills practiced under competitive conditions.
- Overall physical, mental, cognitive, and emotional development.
- Advanced mental preparation, and improved decision making (individual tactics)
- Optimize supplementary capacities.
- Single, double, or triple periodization tailored to the athletes' requirements and tournaments' calendar.
- Sport specific technical, tactical, and fitness training 9-12 times per week.

TRAIN TO WIN

Male (19+ years) and Females (18+ years); at this developmental age, male and female athletes are at the Train to Win stage and the entry age differ as shown above. At this stage, it is essential that all aspects of

performance are monitored so as to assist the athletes attain peak performance in major international tournaments.

Main Objectives targeting the athlete and guiding principles for the Coach/PE teacher at Train to win stage are;

- Focus on high performance and commit to the recognition of international excellence.
- Maintenance of improvement of physical capacity
- Modeling all possible aspects of training and performance.
- Frequent preventive breaks permitting recovery to avoid injuries.
- Maximize ancillary capacities.
- Single, double, triple, or multiple periodization tailored to international tournaments' calendar.
- Sport specific technical, tactical, and fitness training 9-15 times per week

ACTIVE FOR LIFE

Enter at any age; at this developmental age, male and female athletes are at the Active for Life stage and participants can enter at any age during their lifetime.

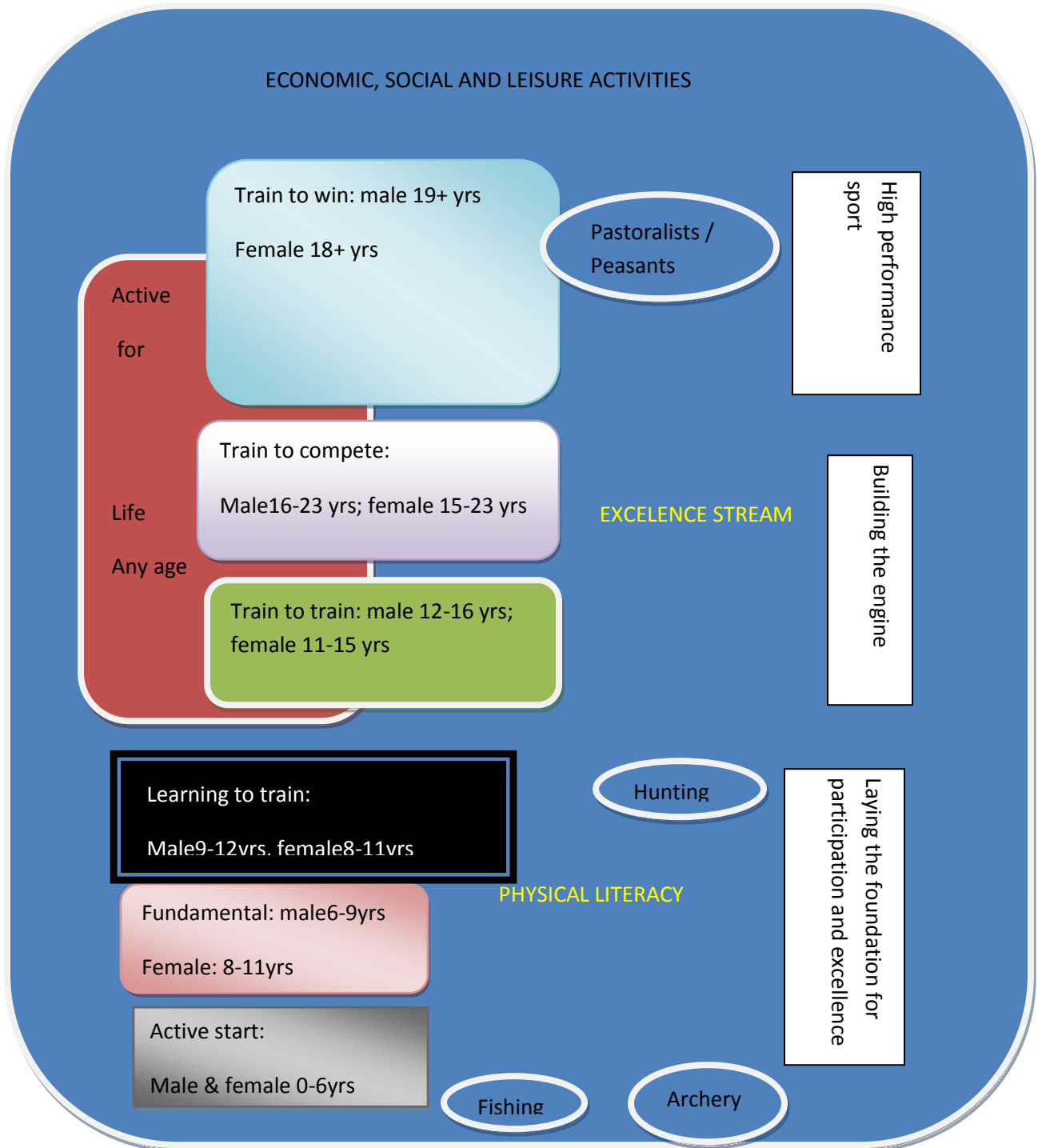
Main Objectives targeting the participant and guiding principles for the Coach/PE teacher at Active for Life stage are;

- A smooth transition from competition to participation or sedentary to active.
- Participating in a number of mass sport activities.
- Practice sporting activities for fun
- Focus on being physically active for life with a minimum of 60 minutes moderate daily activity or 30 minutes of intense activity for adults.

- There is a better opportunity to be Active for Life if physical literacy is developed before the Train to Train stage.
- Transfer from one sport to another after finishing competing.
- Move from highly competitive sport to life-long competitive sport through age group competition.
- Move from competitive sport to recreational activities.
- Move to sport careers or volunteering (coaching, administration, officiating, small business enterprise, board member, mentor, etc.)

Sports Participation and Athlete Development Pathway Model (SPADPM) For Tanzania

(Adapted from Canada and South Africa)



Implementation structure

All stakeholders in sports development should be highly involved so as to achieve the SPADPM objectives

Parents

Provide opportunity for their children to access proper physical activity in line with the SPADPM

Community

Provide opportunity for facilities in order for children to access proper physical activity in line with the SPADPM

Schools

Provide opportunity for pupils and students to access proper Physical Education in line with the SPADPM

Sports Clubs

Properly implement the long term athlete development model of their respective sports association / federation

Sports association / federations

Provide a sport specific model based on SPADPM which have a format for training and competitions guidelines as per each age and stage category

Institutions

Be aware of the model and implement their sporting activities in line with SPADPM

SPADPM Monitoring and Evaluation

In ensuring successful implementation of the SPADPM there is a need to conducting monitoring and evaluation of the process within each Tanzanian sport stakeholders. This includes monitoring and evaluating the following areas of implementation:

- 1) National sports associations and federations; this can be done through communicating with the associations / federations to see their implementation plans and time guidelines as well as conducting workshops and seminars which will emphasize on the model's implementation.
- 2) Facilitate parents to monitor and evaluate implementation of the model in their communities and school environment and then report to the coordinating bodies.
- 3) Have round table discussions with all other implementing institutions in order to receive feedback on SPADPM progress.

Throughout the implementation process education and communication is critical at all levels within Tanzanian sport system. Instructors, Coaches and teachers' education is essential on the frontlines of sport delivery, but SPADPM values and principles also need to be communicated throughout the wider sport system as whole so as to create a substantial shift from "Business as Usual".

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