

Establishing Sports Systems: A Practical Approach

James Ferguson^{1,2}

¹Ferguson Management, Canberra, Australia

²VTara Sports, Pty. Ltd., Canberra, Australia

Email: jferg1@iinet.net.au

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Abstract

Many countries, states, or regions within countries, wish to improve their sports systems in the interests of the benefits sport offers for their communities. Sporting success contributes to a sense of national or state pride. It offers commercial opportunities through business involvement, promotion, the construction of facilities and manufacture of equipment. At the community level it promotes physical and mental health for people of all ages. The purpose of this paper is to examine the issues involved in the establishment, improvement, or maintenance of a national, state, or regional sports system for the benefit of its citizens. Experience gained through working with sports systems in a number of countries shows that there are two related components essential to an effective sports system. The first is a broad community base of recreational participants. The second is a graduated progression of competition leading to state or national representation by the most talented athletes with the objective of improving the elite sporting performances of the state or nation. The connection between these two objectives is the need for clear pathways through which talented athletes can progress from the community to the elite level. The quality of coaching, constant competition and appropriate facilities are vital at both levels. At the community level, widespread participation by children and an emphasis on basic skill development are vital. At the elite level, specialized coaching, intense competition, sports science and athlete welfare are important. This paper will examine the operations of these two components. The research is based on the author's practical experience in formulating and managing the Australian sports system as Executive Director of the Australian Sports Commission for over 10 years and, subsequently, his work in assisting a number of countries in the introduction, operation, or improvement of sports systems.

Keywords

Sports Systems, Community Sport, Junior Sport, Coaching, Competition,

1. Introduction

Sport is a continuum, starting with children participating in organised physical activity where fun is more important than competition, continuing through more intense competition to an elite representative level. Any efforts to improve a sports system must take account of local conditions and culture. To ensure resources are used in the most productive way, programs for improvement depend on a clear definition of the essential elements of a successful system.

Most countries have some sports system through which they provide sporting and physical recreation opportunities for their populations. Many countries, or states or regions within countries, are keen to develop or improve their existing sports systems in order to promote the benefits of sport for the domestic community, as well as to enhance their reputations nationally or internationally. This paper will endeavour to identify a set of principles considered to be of basic importance in a successful national or state sports system, with particular relevance to those countries which are not at the highest level of international sports development.

There are two essential components in an effective sports system. It is, first, vital to have a broad base of young people participating in recreational sport. This has benefits for the community in terms of health and welfare, leading to savings on the health budget and higher productivity. It provides the base on which sport to a progressively elite standard can be built. The second is the development of elite athletes who are identified at that community level as having the talent to compete with distinction at the highest level, so enhancing the reputation of their state or nation. The connection between these two objectives is the need for clear pathways through which talented athletes can progress from the community to the elite level. Success of the system as a whole depends on the quality of coaching, constant competition and appropriate facilities at both levels. At the community level, the inculcation of a love of sport within the community through an emphasis on providing fun experiences and basic skill development is vital. At the elite level, specialized coaching, intense competition, sports science and athlete welfare are important. Experience shows that there must also be clearly identified pathways through which talented athletes can progress from the community to the elite level. This paper will examine the operations of these two components.

In recent years research has been undertaken into the characteristics of national sports systems in an effort to identify factors which have led to success in international sport. These studies produced a series of "Sports Policy Factors Leading to International Sporting Success", now known as SPLISS (De Bosscher et al., 2015). This line of research was strongly focused on success at the elite lev-

el of sport and based primarily on an examination of nations with well-developed sports systems. The purpose of this paper is to focus more on those countries or regions which do not have sophisticated sporting systems, but which nevertheless aspire to improve their sports performances, both at the community and elite levels, with the aim of developing state, regional or national pride and improving health and welfare objectives. The principles that apply to well-developed sophisticated systems apply generally to less-developed systems, although their application will tend to be somewhat slower and at lesser intensity.

2. The Value of Sport

Sport is essentially about beauty and grace, power and precision, commitment and dedication. It covers all elements of society and provides many with the opportunity to express themselves through physical activity, in the same way that people express themselves through other cultural activities. Sport is important in the cultural life of most nations, and most today aspire to develop or improve their sporting capabilities.

The reasons for promoting sport within a community, state or country vary. Often the motivations are mixed. Historically, in most nations, sport has developed along with the growth of the middle classes. As people find more time for leisure and have more disposable income, the importance of and interest in sport grows. There is a considerable body of literature on the value of sport, by which is generally meant physical activity that is to some extent ordered and which contains a competitive element. While much of this relates to sport development in countries with well-established sports systems and it is recognised that the situation varies considerably, the same principles apply universally.

Sport allows for individual expression, the pursuit of excellence, and a sense of community harmony. It contributes to the development of social cohesion, promotes self-esteem and civic leadership, and assists communication between people. It is generally recognised that a nation or state gains prestige from success in its sporting achievements, which can demonstrate the health and vigour of the population, provide excellent opportunities to advertise the nation on the international scene or the state within a nation, or to promote images of excellence which can have important commercial benefits. Success at national or international level stimulates pride and satisfaction amongst the population.

Sport also contributes to the health and well-being of the society. It promotes social interaction and community involvement for all members of the community and, particularly, for disadvantaged members of the community. Sport and physical activity are major contributors to the promotion of health and the reduction of disease, including obesity, which is becoming an increasing problem in many countries. A healthy society is a more productive one, while widespread participation in physical activity reduces the incident of illness and thus of health costs. Sport promotes mental well-being. It contributes significantly to encouraging positive behaviours and community attitudes and to promoting

self-esteem, especially amongst the poorest segments of society or amongst disadvantaged youth. It promotes community identification and cooperation. It provides a positive outlet for energy and opportunities for people to live lives of greater fulfilment. It is now accepted that participation in sport leads to improved academic performance in schools. Sport is in many countries now a major industry with links to the media, other service industries and the construction industry and generates significant income through employment opportunities, the construction and maintenance of facilities, the manufacture of equipment, as well as from broadcast or media rights and from competition fees and sale of entrance tickets to events. It is a major promoter of tourism, generating income from travelling teams and attendees at major events; sporting events, even low-key local events, are important tourist attractions enhancing local economies (Australian Sports Commission, 2006; Confederation of Australian Sport, 2014).

For these reasons, many countries, states, or regions within countries, now desire to improve their sporting performances and the sporting opportunities they can offer to their populations. Most countries have some sort of sports system. In some it is well developed and of long-standing, in others it is informal and little developed. In some it is strongly centralized and closely guided, in others it is informal and loosely or barely controlled and directed. In order to be able to provide quality sports experiences to their populations effectively, however, there must be developed a systematic approach through some form of organisational structure. In Australia, this is done through the Australian Sports Commission, which incorporates the Australian Institute of Sport. The Institute of Sport was created in 1981 to provide high quality training, coaching and sports science servicing to potential elite athletes. The Australian Sports Commission was established in 1985, funded principally by the Federal Government to allocate resources to national sporting organisations, develop sports programs and promote and regulate the development of sport in Australia. In 1988 these two bodies amalgamated to form a new Australian Sports Commission, established under new legislation, and which operates in the name of the AIS when undertaking certain functions relating to the development of elite sport. Subsequently, smaller Institutes were established in each of the Australian states to promote sport within their local jurisdictions.

The amalgamation had one very important consequence in that, for the first time, it created one body responsible for all sport, from grass roots community sport to elite international sport. This is important because sport is a continuum and there is a critical link between sport at the community level and sport at the elite level. To be sustainable over the longer term, a successful elite sports system requires a strong community base. Apart from providing benefits to people of all ages, this provides the foundation for an effective junior sports system. Here, young athletes are nurtured and learn to perfect the skills critical to their favoured sport that can be further developed as they move through the pathways towards elite sport, while junior sport is a critical element in promoting the

health and well-being of young people and in generating the motivation to continue participation in physical activity through life.

3. The Sports Continuum

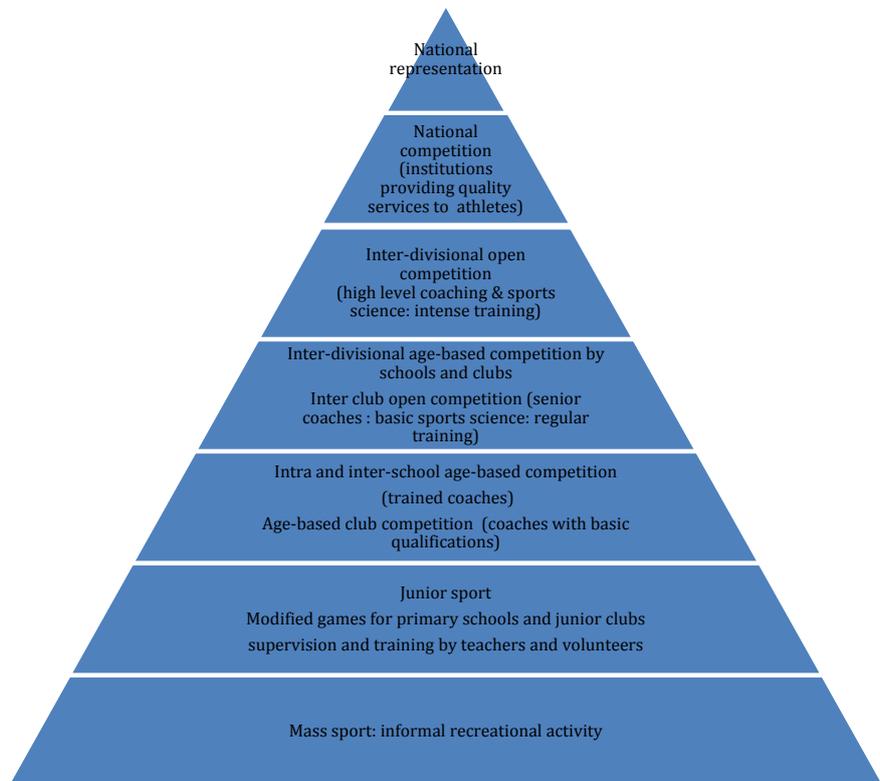
In order to understand the value of sport to the community or nation as a whole, it is important to realise that sport is a continuum and that each element in that continuum has value to the community. The continuum starts from the games played by young children as they learn about human movement and physical coordination. At its broadest base, sport is participated in informally, through a large mass community, often without any special structure or through many different organisations, such as community gymnasiums, walking and rambling clubs or community aerobics which do not require any organized structures through which participation takes place. This level of informal sport and physical recreation is generally designated as Sport for All or Mass Sport. This is where young people learn the benefits of physical activity for sound health and social development.

More competitive sport is generally regarded as involving a degree of organization and some element of competitive activity. This traditionally commences at the junior level, often through modified sport where the objectives are skills development and encouragement to participate through fun. In many countries this is offered through the primary school system, supervised by physical education teachers or normal teachers with some basic training, although in many countries it takes place informally in clubs or even on vacant land. The next level is formal competitive junior sport, undertaken within the school system or through sports clubs, usually starting around ages 11/12. At this level some form of basic coaching is required, and more organised training commences, and this continues until children reach the end of school age. After school age, graded club competition is the normal way in which most athletes continue to compete. In most countries clubs or associations are the backbone of sport. Higher grades require increasingly well qualified coaches. At this level commercial opportunities become more important.

From this club level, some athletes with talent will aspire to greater heights, going on beyond the level of club or local tournament to compete at higher levels. At this stage, the standard of coaching should be considerably more advanced and the training more extended and intensive while basic sports science would normally be accessed on a more regular basis. At this level many athletes in countries with well-developed sports systems are training full time in an institutional setting, an academy or institute of sport, which brings the most talented athletes in a variety of sports together in residential accommodation and where the highest quality services can be readily accessed by all. The highest level on the pyramid, for the very best athletes, is selection in a national team, which requires a high level of national coordination.

At each level the allocation of resources becomes ever more complicated and

intense. The pathways through which athletes start at junior level and progress to senior and hence elite level must be clear and well known to all. This hierarchy of activities can be seen schematically in the following diagram:



The Sports Continuum: Australian Sports Commission 1992.

As the system develops, those athletes who are successful at the highest level provide valuable role models for the community in general as well as providing example and stimulus for younger developing athletes. In order to develop this simple but hierarchical system, a high level of planning is required through all its elements. At this level, sport is a highly sophisticated activity generating widespread public interest and significant commercial opportunities.

Sport will normally be organized at different levels. On a national level, there will usually be a national authority responsible for the sports system overall, for the performance of the nation in competition with other nations and the development of community sport within the nation. At the state level, there will be an aspiration to support both junior and senior state teams and athletes within a broader national competition structure. At the level below this, sports federations will seek to encourage more people into their sport by providing basic participation opportunities locally as well as to develop popular competition structures and successful representative teams.

4. The Cultural and Physical Environment

Before embarking on any process of improvement, it is important that the cul-

tural environment be understood. Each country is unique in terms of its geographical, social, and cultural environment while, within countries, individual states or regions may also experience significant differences. No effective sports systems can be developed without taking these factors into account and any attempt to plan and develop, or improve, a sports system requires a close partnership with local sports authorities, national, state, or regional. There is no point in establishing systems which are not self-sustainable or unable to operate through local administration.

It is also important to recognize that, depending to some degree on the sport, it takes about six years to develop an athlete or team from a position of recognized potential into a champion, that is a successful competitor in world or regional championships or Olympic Games. Even then, successful elite sports performance depends on successful junior sports systems. There is no quick fix. Sports development needs to be considered as a long-term investment.

In considering the geographical, cultural, and social environment of any entity seeking to improve its sporting performance or systems, especially through the employment of expertise brought in from outside, the following are some of the issues that need to be considered:

4.1. Geography and Climate

Many countries suffer extremes of climate. Some experience arctic winters; some arid deserts, and some monsoonal climates. Some are hot, some are cold, some are wet, some are dry. These conditions affect the ways athletes can prepare and, particularly, the types of facilities needed for competition and training. Very cold countries and very wet and hot countries will usually require more indoor facilities, or facilities established for periods of rain and heat. It follows that facilities must be practical for local environments and not dependent on imported models.

The development or enhancement of facilities will, in turn, provide commercial opportunities for local manufacturers of sporting equipment and construction enterprises. It is important to maximise the involvement of such enterprises, so that facilities are developed consistent with the particularities of the local environment, to facilitate local servicing and in recognition of the fact that sporting facilities must be seen as of benefit to the whole of the local economy.

Likewise, countries, or states within countries, differ in terms of their geographical and population spread. Some, such as many European countries, are very compact. Other, such as Australia, are vast with populations decentralised over great distances. These factors will determine to some degree the extent to which systems should be centralised or decentralised and this will determine the appropriate structure and methods of governance of the system.

4.2. Extent of Sports Development

All countries have relative strengths and weaknesses in their sports systems. It is

usually the case that there are, in each country, some sports at a comparatively high standard of development or performance and others at a lower level. Some countries have unique or special sports that are popular and important culturally and, so, require special attention. Some countries have systems based on a mixture of private sporting and social clubs together with public facilities; each must be utilized productively. Some countries or regions will have well-developed community systems with some sports with many young people already engaged in organised competitions, through which talent identification is possible and pathways can be readily identified. In such cases, a base already exists on which elite sport systems can be built. Others will have relatively less developed junior systems. This does not mean that elite sports development is impossible but what it may mean is that a different approach, starting at both ends of the spectrum at the same time, will be necessary.

4.3. Cultural Considerations

Each country will have different approaches to management based on local habits or conventions. To ensure sustainability, it is important that these particularities be recognised and built into the domestic sports systems. This may affect the relationship between the central sports authority and the local sports associations or how appropriate management systems should be developed.

The extent to which the education system provides for or encourages sport is also important. Schools are the best places to make contact with young people, who will be the beneficiaries of a successful sports system and any sports development strategy will need to work in closely with the education system. Cultural considerations will also be important on issues such as female participation, or the extent to which young people may be able to be away from home, or the times and duration of training or competition schedules. In each case, there will be established cultural norms that must be considered.

Sport inevitably involves young people, many required to commit long hours and hard work into their sporting endeavours. This affects their ability to work or creates difficulties in undertaking study or vocational training or in commencing their careers. The way these issues are handled varies from culture to culture. Any sports development activity must be sensitive to such issues.

4.4. Available Resources

Resources vary considerably. Any sustainable system must recognise this. In no system will it be possible to do everything for everyone; priorities must be set. Sport provides widespread commercial opportunities and there can be significant benefits from employing private sector funding. Usually, this involves the local business community and is related to advertising or media coverage and therefore requires an understanding of the local market only available locally.

4.5. Scientific Development

In countries with highly developed sports systems, elite sport today requires a

considerable level of scientific input. Most countries have some degree of scientific capacity within their medical systems, but the extent to which that might apply to sport is often uneven. While it is necessary to examine the extent and pattern of scientific development as far as it relates to sport to be able to identify those areas where assistance can best be applied, it must also be recognized that, in most sports systems, sports science does not need to be highly advanced. The requirements for scientific support vary between sports so the science must be appropriate to the individual sport. For example, diet is accepted as an important element in athlete development as well as in the physical well-being of children generally yet approaches to food and diet vary considerably on a national basis while all people are naturally accustomed to their local foods. The dietary requirements of different sports also differ to some degree. In developing any sports system, it is important to work closely with the local scientific community so as to provide the most appropriate scientific intervention.

5. Strategic Direction

Having understood the level of sports development within the state or nation targeted for improvement and taken account of the local cultural and environmental characteristics, the first step in initiating improvement is to develop a clear strategic direction.

The complaint is often heard that, for many countries, there is not enough money to develop a successful sports system and the natural inclination therefore is not to try. The SPLISS findings concluded that the extent of resources was an essential pillar of a successful system. The reality is, of course, that no one has enough money; that is a sad fact of life. Undoubtedly, a certain amount of money is necessary for any undertaking. But it is what is done with the money that is important. Sports systems do not have to be expensive, and resources can be preserved by careful management.

The first principle, in embarking on any enterprise, is to have clear goals. There must be clarity about what is desired to be achieved. Without this it will be impossible to establish the appropriate strategies for success and resources will be wasted. Goals may relate just to the elite level of sport, the community level or the full sporting spectrum. They may be short term, to achieve a specific result within a specific time, or long term, where the aim is to establish a full comprehensive sports network, including junior and/or community sport. Any comprehensive sustainable system which is successful over time, however, will require long term and detailed planning. Once decisions are made on long term goals, more specific goals can be established as steps towards the achievement of the overall objectives.

In terms of high performance sport an ultimate goal for a comprehensive sports system might be to achieve a particular level of success within a particular time scale, to win so many medals at a particular competition, or to achieve a continuous improvement in overall performance. For an individual sport it

might be to win a local tournament, or to improve rankings within a particular competition. At the community level it may be simply to increase the number of participants, to establish popular competition structures, to increase the level of coaching expertise or to set up a full community program. The ultimate goals will depend on an intensive study of the strengths and weaknesses of the current system, as discussed below. It is important to set goals that are realistic but still represent a clear advancement. They should not be too easy to attain. But, likewise, not too hard. There is no point in setting a goal that is realistically impossible to achieve, but there is equally no point in selecting a target which can be achieved without effort. That will not stimulate continuous improvement. But, each step can lead to long term gains.

The next step in the strategic planning process is to set subsidiary goals related to all the factors that will contribute to achieving the overall goal, the idea being that, if subsidiary goals are met, the overall goal will be achieved. As a result, these need to be linked. For example, a subsidiary goal may be to win a particular event because that will contribute towards achieving a higher result in future, to improve the standard of coaching because that will improve the quality of community or junior participation or chances of success at higher levels, to develop top quality local competitions because that will contribute towards improving representative results, to improve the services provided to athletes because that will improve athlete performance, and so on.

Once subsidiary goals are defined there must be a concentration on how to achieve them. This now moves into the process of operational planning, to implement or develop specific programs designed to achieve particular defined outcomes. It is about turning goals into achievables, determining what specific actions need to be taken to achieve the desired outcome. An analogy is the fitting together of all the separate components within a complicated piece of machinery. All must be effective for the machine to work.

In terms of setting strategy for community sports participation the sorts of questions to be answered include what the purpose of the exercise is; to improve the health of children, provided better options for the elderly or those with disabilities, to improve the standard of junior sport, to provide programs for disadvantaged children or those at risk. Until these questions are defined it is not possible to develop individual programs, because those programs must be targeted at achieving the desired outcomes and, with community participation, these will vary considerably according to the target group.

In most countries there are existing administrative mechanisms for the development and management of sport, although these often vary from country to country or state to state. The local structures must obviously be taken into account. It is, however, important that there be one entity setting the direction, albeit there may be subsidiary bodies providing services designed to achieve specific goals consistent with whatever long-term objectives have been set. And it is important that this entity be recognised as having the ultimate authority. It may be a Minister, of the state or national government, an independent authority or a

sports confederation. But, any confusion in direction will result in chaos and failure. This has been one of the benefits of the Australian system in having one body responsible for the development of all sport. Again, it is like building a piece of machinery; one body is responsible for bringing together the overall product, even if different contractors are responsible for separate parts.

For successful development, therefore, it is important to understand the overall structure of authority through which the broad strategic framework must be set in order to provide direction for the enterprise. This is, again, discussed below. In the end, in setting the strategic direction, the issues discussed below will need to be taken into account. Each will have a slightly different emphasis depending on the level of sophistication of the existing system.

6. Performance Analysis

Whatever the desired outcomes, there can be no advance unless the current situation regarding sport in the state or nation is understood. Any enterprise that wishes to improve must know where it is starting from. In developing a system for sport generally, or an approach for a particular sport, it is necessary to map the environment. Issues such as numbers, genders, geographical distribution, social issues such as where children congregate, the provision of sports opportunities in schools, the standard and location of facilities, or the scientific expertise available must all be considered. While the current state of play may be thought to be well known, it should not be assumed that it is fully understood. There must be a detailed and dispassionate analysis of the current situation, to identify strengths that can be built upon and weaknesses that must be eliminated. In terms of high performance sport, this will involve an assessment of coaching, sports science, athlete support, facilities, results and so on. In terms of community sport, it will involve an understanding of the extent and appropriateness of facilities, the extent and standard of community coaching and responsibility for working with young people, and basic competition structures. These will each be discussed in this paper.

The obvious start is to compare results over a series of identifiable events, looking at placings, times, scores etc. Within an elite system, this will quickly identify those sports that are worth investment. But this must be done in relation to the main identified rivals. Most countries will not come out well against the USA or China but the situation might look a lot more promising when results are measured against those of close rivals or other nations within a geographic entity or against rival states in a nation.

In terms of community involvement, elements to be considered include the numbers of young people involved in formal sporting activities, club membership, the popularity of individual sports, the opportunities for progression, the involvement of schools, the numbers of young people considered at risk, the general health of the population and so on. The question must always be asked, what are the perceived problems and where is improvement needed. This allows

the setting of realistic goals and thus the clear definition of program initiatives.

Whatever the level of aspiration, it is vital to conduct an honest assessment of performance history and to identify the key performance drivers of each sport or community organisation. In the sports sphere, a detailed analysis of the competition, their strengths and weaknesses, as well as one's own, will allow a concentration on areas for special attention. This must include an analysis of the junior sports system, issues such as athlete progression and levels of competency at all levels in all the areas contributing to success.

7. Community and Junior Sport

A comprehensive sports system will devote significant resources to developing community sport. It is well established through research that a fit and active society will be a productive one, with major savings on the health budget. Community sport involves people of all ages undertaking the physical activities that appeal to them in a relatively uncompetitive or loosely competitive structure and in a largely social environment. Children are, by nature, competitive and more competitive sport at a junior level frequently emerges from this broad base of community sport or activity. This more formal sport, generally at a junior level, helps contribute to the same health and social outcomes sought through broader community activity but, when fully developed, also becomes the first step along the road that leads eventually to highly structured and competitive elite sport.

Ultimately, it is through this early sports experience where future champions are developed and nurtured. A sustainable elite system will be stronger if built on a strong community base. So, at junior levels the community base must provide for those who just want to play for recreational or social reasons as well as those who will want to become involved in more formal activities, the start of the development pathway. It is vitally important that, at this junior level, children enjoy their fledgling sporting experiences, so instilling a lasting love of sport.

In many countries, including Australia, much of the resources and delivery mechanism for junior sport is achieved through the school network, although local governments also play an important role. The fact remains, however, that all elite athletes start as juniors and the better the junior system, the healthier the community will be, and the better prepared young athletes will be as they come through to successful elite competition. This, of course, takes time. But no sustainable elite sports system can be built without a strong junior platform. It is here that young athletes start to perfect the skills necessary for success in their sports.

At young ages sport should have an emphasis on fun. Competition should be basic and low key, the over-riding objective being to encourage children into sport. Many children have been put off sport because they have been pushed too early and have not enjoyed the experience. At lower levels it is important that the size of the sporting arena is reduced to a size suitable to young children. Young children cannot be expected to play on a full-sized field or court. Goals

must be smaller, nets and baskets must be lowered and rules simplified. This was the great benefit of the Australian Aussie Sports program, through which the concept of mini sports was introduced, with an emphasis on enjoyment and on learning and perfecting basic skills.

The link between junior and elite must be understood. The great majority of junior community participants will not have the ability or the inclination to move into the elite ranks of athletes; they will be content with participating for their love of their favourite sport, for recreational or social reward. But the members of that group are still very important in the overall system. They contribute to a stable, healthy, productive, and cooperative society and they provide the positive environment from which those who have further aspirations are nurtured.

An investigation of the junior sports system will assist in identifying where aspiring athletes come from and their level of competence when they start to enter elite ranks. This does not apply just to athletes; coaches, judges/referees and administrators all need to be progressed. Clear pathways that allow continuous development of young athletes or budding officials are essential. They must know their options for future development and progress and have some idea of what is required at each level of their development. That might be from junior club to senior club, to local or regional representation, through special institutions and so on to national level. These pathways will be different for different sports, but each will have reasonably defined steps and everyone in the sport must know what is entailed in such progression, so they have a clear direction and progressive goals to work towards.

Talent Identification is important. Identifying those with talent and providing them with special programs will improve the standard at senior levels. But it is important that talent identification be integrated into pathways. Once a talented athlete or official is identified there must be opportunities open to him or her to continue to develop. Many children take up the sports their friends are playing. At the lowest junior level this does not matter much. The important thing is to encourage them into sport. It has been identified, however, that, as they progress, many are found to be involved in sports that are not as suitable for them as some other sports might be. Specific talent identification programs can be beneficial in terms of speeding up the process of development and identifying athletes not competing in the best sports for their personal characteristics. But this is not necessary at a basic level and the exercise of common sense is a sound indicator; if you are short, hockey might be more suitable than basketball. For this reason, it is desirable to encourage young people to participate in a range of different sports.

Having established a strong community base which encourages sports participation for social, community and health reasons, a concentration on more advanced elite levels is appropriate. The link between the two will be through the pathways for athletes, coaches, and administrators to improve competencies and advance through the system.

8. Selection of Sports

No elite sports system can concentrate on all sports; the resources are simply not available. To be successful it is necessary to concentrate on those sports which either have a large following and therefore cannot be ignored or those which are already developed to some degree and have the potential for further advancement. This requires targeting. Probably nothing causes as much dissention, because all sports will consider themselves valuable and many that do not have much chance of success will still have good links to Ministers and other people who influence decision making. But, for a successful system, there must be a concentration on those sports likely to be most successful. This is a pure investment decision, just as a stockbroker concentrates on those stocks with potential to improve. Think of it as an investment model.

The selection of individual sports must be based on a rigorous assessment of their chances of eventual success. The identification of which sports are worth supporting should come out of the performance analysis. But, in determining what might constitute success it is wise not to aim too high. If one starts with an aspiration to win a string of national championships or Olympic medals, the choice of sports will probably be very limited indeed. Without long preparation and experience of quality national or international competition, the aspiration to win medals at the highest level would be very ambitious. But, in any system, there may well be sports which can do well at slightly lower levels. For many sports, to be successful in an important regional event, or to improve its international standing will be an excellent result, as will for a state to improve its standing nationally or a team to improve locally. In some cases, simply an improvement in ranking will be a reasonable objective.

And, it must always be borne in mind that, to win at the highest level, it is important, first, to get close to winning. A fourth or fifth placing at the highest level or just to compete in a major regional championship let alone an Olympic or World Championship event is a wonderful achievement and should be celebrated. The important thing is that, having selected those sports for special concentration and decided on an appropriate level of achievement, the system must be seen to be successful. This will provide motivation for other sports to concentrate on what they need for success and create a climate of winning, because winning breeds on winning, just as losing breeds on losing. There must be a winning culture. That is another reason why aspirations should initially be modest.

In conducting a performance analysis, it is not just current success that should be measured. This is, of course, important, but there may well be sports that, with a real push, have the potential for future success. There may be some small sports that do not get much attention but have good potential, perhaps for no other reason than that the competition they might compete against is not strong. There may be some sports where elite success has not been achieved but which have good junior programs that can be fostered. It must also be borne in mind that there are many more medals available in sports with multi-disciplines or

categories than team sports. Track & field, boxing, weightlifting, judo and similar give many possible medals, team sports such as hockey or football give only one.

And the other factor that must be borne in mind is that it takes time to develop a sport into a national or a world force. Some sports take longer and some take less and the time required will depend on where the sport is on the spectrum of success, but it is generally accepted that, unless they are already at the top, it takes a long time to get all the ingredients in place and working smoothly and effectively before significant achievements are likely. So, don't expect instant results.

9. Coaching

High quality coaching is one of the most important keys to success in sport, at both the elite and community level. In Australia we say our elite sport is athlete centred and coach driven. Everything in elite sport must be directed at perfecting the athlete. They are the ones who in the end have to get the result. In all sports, especially at the elite level, it is important that every input be coordinated and controlled and that means that all actions aimed at perfecting the athletic performance must be directed through the coach, who must bring it all together for the athlete. There can only be one director and that person is the coach. They best know their athletes and what they are capable of. They set out the daily training schedule. They ensure that technique is developed to the highest level. If an athlete is getting advice and direction from different sources they will get confused and lose focus. In many sports, particularly those with many individual competitors, such as swimming or boxing, there may be a Head Coach or Coach Coordinator as well as an athlete's individual coach, in which case the coaches must work closely together to ensure clarity of direction.

Coaching at junior level is just as important. As elite athletes develop from junior ranks, it is vital that each individual sport has depth in its coaching talent. This requires continuous education of coaches at all levels, down to the most junior. It is a long-term development which requires a clear routine in each sport, through which coaches are required to achieve progressively more complex levels of capability, measured, and recognised through a system of accreditation. This, in turn, requires a high level of communication within each sporting federation. Younger coaches should be given opportunities to work with and learn from more senior coaches. There is great value in encouraging coaches to talk to and learn not only from other coaches in their own sports, but also from other sports. This is one of the real values of sports institutions where a number of sports come together. It allows for cross-fertilisation and ultimately for the creation of a culture of excellence. Many countries now have structured programs for coach development, with a progression from junior or community coach through to elite. Each requires different skills and directions. Any new or developing system must introduce at least a basic coach education and develop-

ment program.

It is equally important to select coaches on the basis of their strengths. Most coaches aspire to lead national teams, but the opportunities at this level are obviously limited. Some coaches are well suited to coaching at the highest, national, or state level. Many of those who are, are not particularly successful at coaching at junior or development level, while some excellent development coaches are not so successful at the highest elite level. It is thus important to select coaches appropriate to the level of their individual capacity. An outstanding development coach will contribute as much to the overall success of the enterprise as an outstanding elite level coach. But, whatever their level, all good coaches must be valued and recognized.

The role of the Head Coach and his or her relationship with all other coaches in the system is also critical. The Head Coach provides the technical leadership for the sport, sets the program, provides leadership to the other coaches and establishes the standards and benchmarks for the whole coaching fraternity of the sport. Not all Head Coaches actually coach. In some sports they fulfil a coordinating and leadership role, dealing with specialist coaches who work directly with athletes. But, whatever form of coaching system is developed, the Head Coach must be allowed to get on with his or her job without interference. Coaches are selected to get a particular result. Obviously, they are selected on the basis that they can do the job. Once selected, they must be left alone to get on with that job. Nothing will destroy the quality of a sports program quicker than where everyone thinks they know better than the coach. Athletes, at all levels, need one source of clear leadership and direction.

In many sports, the level of local coaching may not be high enough to sustain significant improvement. Many countries which have faced this situation have imported high quality coaches from overseas. This tends to be a sensitive issue because it might seem demeaning to local coaches to import others. Some will worry that imported coaches will take what they learn back home with them to the detriment of local sport. If this is true it is outweighed by the benefits. Where local standards of coaching in a particular sport are not satisfactory, importation is really the only way to develop a sound base for the future. It is essential if the aim is to secure quick improvement. In order to ensure the build-up of local coaching expertise for the future, however, it is desirable that, where coaches are imported, part of their contract should be to work with and train local coaches as well as to work directly with athletes. A word of caution. Top quality coaches internationally command high remuneration. Importing coaches is not cheap. So, it is essential to make the most of them!

10. Sports Science and Research

In those countries seen as regularly successful in sport at the highest international level, sports science is a major ingredient in their systems. To perform at the highest level, athletes need constant attention through physiotherapy, physi-

ology, strength and conditioning, psychology and nutrition as well as medical servicing. But, for most countries, sophisticated sports science is too expensive and not necessary. What is required is a down to earth approach applied consistently to the practical end of improving performance. There is always a tendency to develop science for the sake of science. Sports science at a club or lower representational level does not need to be complicated or unduly sophisticated. But it does need to be practical and that entails providing service to assist athletes perform consistently and constantly.

At the elite level, different sports have different scientific needs. Some, such as basketball where there are a lot of leg strain injuries, are heavy users of physiotherapy. Others, such as rowing and cycling, are heavy users of physiology, although all at some time need access to all disciplines. So, in looking at the provision of sports science, there must be an emphasis on the sciences most directly relevant to the sports chosen for concentration. In order to maximize efficiency and prevent waste, basic needs must be identified.

As the sports system develops, there is great value to be gained from encouraging sports scientists to specialise in particular sports or encouraging practitioners working primarily with the general public to transfer their skills into the sports context. General practitioners who develop such speciality can contribute enormously to their favoured sport. Good coaches get around themselves a group of scientists in each discipline who become experts in servicing that sport. At the same time, however, scientists, like coaches, gain significantly from interchange with other scientists, particularly because, in most cases, the demands of one discipline cannot be separated from those of other disciplines; for example, the physiotherapy needs of an athlete cannot always be separated from the psychological or physiological.

For most countries without sophisticated services, priority attention should be given to getting athletes fit, to preventing injuries and to quick and effective recovery from injury. The most important scientific expertise, then, is in strength and fitness, physiotherapy, and sports medicine. These disciplines will cope with most of the day-to-day problems confronting most athletes across the broad sports spectrum. It is also highly desirable to have a close proximity between training facilities and a sports science centre. This allows ready access by athletes, stimulates a close association between coaches and scientists and encourages easy communication between scientists of different disciplines. It also provides a useful economy of scale, allowing athletes to access the services they need but allowing the scientists to service athletes from a range of sports. For this reason, it is desirable for each multi-sport centre to have access to at least basic sports science support. It is not necessary to have full-time sports science practitioners; services can be obtained commercially. But building links between practitioners and specific sports is still desirable.

Research is generally closely associated with the sports sciences. This is where most research concentrates. It is a long-term activity, but to compete with the best, there must be access to the best and most up to date techniques. Obviously,

much research is done by universities and similar bodies and this research can be most useful. There is a danger, however, that it can become too academic in its approach, and academic research generally takes time. Research does not need to be esoteric or expensive. Most coaches have specific problems to which they require rapid solutions. At the basic level the emphasis should be on applied research. After all, the aim is to produce good athletes not beautiful science. There is thus great advantage in carrying out research in close conjunction with athlete servicing. That makes it practical and, even if scientists don't like to admit it, it is true that many important scientific advances have been discovered by accident while undertaking routine servicing, or at least the routine servicing has thrown up the idea for further investigation.

There is now an extensive array of sports technology available in the market-place. Some of this is sound and is of practical use. But great care must be taken when contemplating the use of technology. The market is crowded, and many applications fail. The prime criteria for the value of sports technology are price, practicality and ease of operation. To be useful, technology must contribute to the improvement of performance in a practical way. There are possibilities for new sports systems to develop technology, but this should be secondary to the establishment of sound systems.

Standards must be uniform for each sport across the system. There will usually be a number of testing laboratories involved in a national or state sports system and athletes are sometimes separated for long periods undertaking their training requirements individually or in small groups. But all national or state athletes must adhere to the same standards. If athletes are tested under different regimes Head Coaches will not be able to make comparisons between the fitness or readiness of athletes to compete effectively and, obviously, all athletes in a team must be prepared to the optimal level. Data that is not standard and comparable is useless to a coach.

Easy access to necessary information by all participants in the sports system is required. Good communication allows expertise to be kept up to date and allows dissemination of important or new information. National or state coaches must be able to tell at a glance what is the condition of any athlete in their squad. A good communication system will also transfer testing standards down to lower levels so enhancing the quality of emerging athletes coming through to the top levels.

11. Competition

To beat the best, one must constantly compete against the best. Quality competition is essential, both to maximize the development of talent among emerging athletes as well as to maintain constant improvement at the national or international level.

The competition framework must start with quality domestic competition at junior level. This grows out of community sport and is where young athletes

perfect their technique and learn what it means to be an elite athlete. But it is also where the community develops a love of sport which will last them a lifetime and contribute to social harmony, health, and discipline. Sound sports systems concentrate on community sport. Children generally want to participate through some form of basic organized activity. It is not difficult to construct a basic community sports structure; all that is required are active children and a few enthusiasts to organise them. This activity will generally take place at sports clubs, within local neighbourhoods, or at village level. Many community participants do not aspire to become champions, but all champions start at the community level. It is for this reason that local competition must be carefully graded, to ensure that young athletes are competing against others of roughly the same standard. If the competition is too easy the talented athlete will not develop; if it is too hard, they will drop out.

The role of coaches at this basic level is crucial, to ensure that participants have an enjoyable experience which will keep them in sport, as well as developing in young athletes the skills and techniques they will need to advance to higher levels. From junior competition young athletes move into progressively more senior levels of competition where the going gets continually tougher. The local competition should be itself of a quality to ensure that athletes enter the state or national ranks as well developed as possible. If necessary, local competitions must be specially created to allow for this. It is no good an athlete having wonderful technique or fitness if they do not know how to compete. Competition is where they test and judge themselves against their opposition.

Likewise, the highest quality national or international competition is vital, with teams adequately prepared, managed and funded. There can be a tendency for some sports to compete in second or third rate events because they are more likely to win or they have long standing co-operative arrangements. This is acceptable for developing teams but is not the way to get to the top. It is wise, however, not to bite off more than you can chew. At the developmental level, even with a national team, competition should be of the right standard; at a level that will provide realistic chances of success, but only with effort. Once they are comfortable at a particular standard they can aim higher. But, at the end of the day, if the aim is to win the national championship, athletes must be constantly testing themselves against the best competition in the nation. If the aim is to win an Olympic medal or a world championship, they must constantly be up against the best in the world.

12. Prognostic Evaluation

Prognostic evaluation has little benefit at community or junior level but is important once athletes reach representative level. Outstanding coaches will know precisely where each of their athletes or teams is placed in relation to their competition. Some coaches do this as a matter of course, although it is not always easy for them to obtain the information they need. This evaluation is also useful for measuring benchmarks for performance. The ideal is to have a centralized

information base that provides the information the coach needs. A coach must know exactly what times his cyclists, swimmers or runners must reach, or what weights his lifters must lift, to beat the competition. This then allows the coach to set the training program for each athlete.

This is of course easier with individual than with team sports, but even team sports will perform better if they have a realistic assessment of their strengths and weaknesses against their main competition. In team sports, knowledge of the strengths and weaknesses of the opposition will allow sensible decisions to be made on tactics.

13. Athlete Welfare

Neither is athlete welfare a major concern at the community level but, even here, a good coach can help a young person who may have personal problems by pointing them in the right direction or just by being sensitive to their needs. Being a top-level athlete, however, is a stressful business. Most athletes are competing at their highest level at that time in their lives when they are undertaking their education, starting their careers, often getting married and starting families. Athletes cannot compete effectively unless their welfare is looked after. This requires a basic system to provide support for athletes during their periods of intensive training to ensure they can train without distractions. The first type of support most athletes need is material; that is, money. It makes sense if possible to provide this support against assessed needs; for example, senior, married athletes will need more support than juniors.

Of course, money to support top athletes is not always available, but there are other forms of assistance that can help athletes as they seek to balance their sporting endeavours with the need to protect their futures. Some require assistance with educational needs and career advice relevant to their future lives on retirement from sport. Some need assistance with schooling, or flexibility in undertaking courses of study. Athletes who are worried about such issues cannot concentrate properly on their training and are at more risk of dropping out early. Likewise, few athletes can train all the time and boredom when they are not training can lead them into trouble. Ideally, efforts should be made to allow them to work or study part time to provide some rounding in their lives and fit them for life after sport. Their sporting potential will also be improved. At the Australian Institute of Sport there was a program called Athlete Career and Education (ACE) which provided advice and assistance to athletes on issues related to education or career development and was able to intervene with education or work authorities to develop flexible arrangements to allow athletes to train and compete without jeopardy to their future prospects. These services can often be provided by local businesses or enthusiastic supporters, which can also help to develop community involvement.

14. Facilities

The key to developing facilities is that they must be appropriate. There is an un-

fortunate tendency to equate a good sports system with elaborate facilities. Certainly, they look a lot better and politicians love opening them. But the value of a facility to a developing sports system is what takes place within it rather than what it looks like. For an Olympic Games or a major regional event, certainly the facilities must be extraordinary, but there is no point building vast stadiums which will hardly ever be full. What is important is that facilities be well planned, with appropriate change rooms, relaxation, meeting and medical facilities and able to be used by as many participants as possible. But, for most levels of local competition quite modest facilities are sufficient. Climate also is important, with facilities developed to take account of local conditions.

It is desirable that competition facilities are combined with training facilities. When building or modifying facilities for competition use or for use in major games, thought needs to be given to their use as training facilities during, as well as after, the major competitions. Generally, facilities used for training do not have to be elaborate. It is more important that they be practical. Training facilities must include or be constructed with easy access to sports science, weights training, recovery and administration. They must also be designed from the beginning to take account of power needs, maintenance, cleaning, and the inclusion of modern technological requirements like facilities for recording and video analysis. Wherever possible, they should be built by local contractors, so spreading the value of sports development and encouraging local involvement and support.

A decision must be made whether to centralize all elite training in one institution or to operate out of different facilities in different parts of the state, province or country. In a federal system there will usually be pressure for decentralization. It is often thought this is more popular with athletes as they can stay closer to home. The advantages in centralization are that it is usually cheaper to build one high class facility, which brings all athletes and coaches together and creates cross fertilization, economies of scale, and facilitates the provision of consistent high standard services. It also fosters a state or national unity and camaraderie. If a decentralized model is chosen, it is important that all facilities operate on consistent standards and as part of the same elite network and direction. Team sports have little option but to centralize at least on a frequent basis, as teams must train together.

15. Effective Sports Federations

For any sports system to operate effectively, the sporting federations involved must be themselves well managed, with clear strategic objectives, operational plans, and basic performance indicators. It is these federations that encourage community participation and establish and run their competition structures. It is them that develop and employ coaches, select and support their representative teams, engage sports science expertise and look after the health and well-being of their athletes. If these do not all operate effectively their athletes will not improve and the sport will not prosper.

Some federations are in receipt of significant funding, much of which comes from government or community organisations, and they must be able to account for the best use of that funding. They are generally not businesses. Their aim is to deliver a public good, not to make money. But they should be expected to operate in a business-like manner. They must take responsibility for their performance, on which they should be constantly assessed. They must know what is expected of them and each should have a set of simple performance indicators against which they can be measured and on which some of their funding should depend.

But the fact is that, unless a sports establishment has been in operation for many years, and sometimes even then, sports federations need a great deal of expert assistance. Outside the big professional sports which often are in effect businesses, most are small, poorly funded community organisations. Many of the members of their boards or governing bodies, while they may be knowledgeable about the technical aspects of their sports, do not have experience in business, governance, strategic planning or public relations, all important aspects of an effective sports federation. Very few include experts in high performance sport. Most sporting federations, even at the national level, need guidance and assistance to operate effectively. In an effective system, the central governing body has an important role in providing this expertise, which, again, does not have to be complicated but can be facilitated through basic instructional literature or seminars.

16. Overall Administrative Mechanism

Lastly, in order to be successful overall, it is highly desirable to have an appropriate mechanism to draw the broader national or state sports system together and give it coherent direction. Without such an authority, the system will lack direction, co-ordination will be difficult and economies of scale unattainable. Countries and many states with well-developed sports systems have central authorities to provide this direction. Whether necessary funding comes from government, the commercial sector or community organisations, the providers will want to see that funding well used to bring about their desired results. A most important role of the state or national co-ordinating body must be to provide leadership for the local federations, working in close collaboration with them to develop the expertise they need to prosper.

The central body will have to make judgements about the issues raised in this paper, including what sports to support, where they should be based, whether they should run centralized or decentralized programs, how the junior sports system integrates with the elite, how the development pathways best operate, how coach education and development should be stimulated, and how athletes should be supported. It must monitor the performance of federations and the results they are achieving and keep the pressure on them for improvement. It might be a centralized government body, a semi-government corporation (which

is roughly the Australian model), a federation of sports associations (such as in Germany), or an independent body, such as an Olympic Committee or sports association. Whatever is the form in place, an agreement between the central authority and each sporting federation is a useful mechanism for identifying performance needs and monitoring performance.

17. Conclusion

The establishment and running of a successful sports system is a complex undertaking, involving the identification of all the separate ingredients that go to make up sporting success and their integration into a coherent plan with a clear strategic objective. But it does not have to be complicated. What this paper has attempted to do is to concentrate on the main features which will contribute to an effective sports system at provincial, state or national level in countries that are not at the highest level in international sport, but which wish to improve. The process starts at the development level, which has its own benefits for the community in terms of health and well-being, and is progressively refined as it becomes more elite.

Ultimately, what makes a successful system is the creation of a culture of excellence. Athletes do not succeed because they want to succeed. That is taken for granted. They succeed by operating in an environment which encourages and expects excellence. And this starts at the top. If there is a clear framework, with clear objectives, open communication and a concentration on each of the elements essential for success, as I have here outlined, and if every coach, every sports scientist, every administrator is committed to excellence in everything they do, the athletes will respond to this commitment and also achieve excellence. This is what leads to sporting success.

When they dive into the pool or go onto the ground or court athletes do not think about how hard they must work to win. They think about their technique and concentrate on getting every tiny movement or tactic right. They think about achieving perfection in everything they are doing. If they do that they know they have the best chance of winning and they cannot ask more of themselves than that they aspire to perfection. Effective systems are based on the same philosophy, of leaving no stone unturned in the search for perfection at all levels.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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