

# How Science And The Olympics Can Learn From Each Other

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**By: David Dickson, Editor, SciDev.Net**

*AsianScientist (Jul. 30, 2012)* - Every four years, the countries of the world meet to discover whose citizens can run faster, jump higher and otherwise surpass those of other nations in a wide range of athletic and sporting activities.

At the 2012 Olympic Games, which opened in London this week, medals will be won, records will be broken, achievements will be celebrated — and close eyes will be kept on tables showing which countries have outperformed their rivals.

Inevitably, the competitive spirit will dominate. In this, the games act as a giant metaphor for the global economy, in which competition is lauded as a driving force that will ensure a general rise in standards, even among those who aspire to — but do not necessarily reach — the highest levels of achievement.

But behind this there is a less celebrated aspect. The games also represent an achievement in cooperation, both at a national and international level.

In team sports, cooperation among team members is obviously essential. And at the Olympics (and the following Paralympics), countries put aside their political differences (or at least most of them) and demonstrate a common commitment to a system from which, at the end of the day, all participants should benefit.

## **Science in sport**

Science has played an increasingly important — if at times ambiguous — role in sport. Some contributions, such as the development of performance-enhancing drugs, fall squarely into the negative category.

Here a parallel can be drawn with the way science has been used to secure military superiority, distorting the potential contribution of science to social progress.

But other contributions of science to sporting achievement have been more constructive. A scientific understanding of human physical achievement — such as analyses of the muscular movements of swimmers — has contributed to many modern training programmes.

In addition, technology judged to fall within the boundaries of fair competition has been accepted, the most recent being the carbon-fibre prosthetic lower legs used by Oscar Pistorius, the South African sprinter.

And even in the case of performance-enhancing drugs, advanced detection techniques often give the testing authorities the upper hand, even though the battle to stay ahead is continuous, and not always successful.

### **Lack of resources**

But there is also a danger that the resources needed to develop the positive aspects of sports science could distort the gap between rich and poor nations.

This parallels the economic sphere, where countries that are able to enhance their competitiveness through science-based innovation tend to outperform those that lack the resources — or political will — to do so.

In sport, to some extent this gap can be compensated for by natural ability. And this seems likely to have a genetic component; for example, Africans have been shown to have a much higher prevalence than Europeans of a variant in a specific gene that has been linked to success in athletic and power sports.

But natural ability, as any athlete knows, is only half of the story. This ability has to be harnessed and honed if it is to reach the level of achievement required of today's Olympic competitors.

### **Dominance of the developed**

Sports science can help with this process. But it is an expensive business, requiring a level of financial commitment that not all countries can afford.

As a result, and despite the Olympic commitment to universalism, the medals table tends to be dominated by those countries, particularly the United States, which also dominate the global economy.

Indeed, there is a further parallel to be drawn in the way that modern-day Olympic sports, like global science, tend to be dominated by games and traditions established in the industrialised north.

There remains little scope for engagement with the indigenous sporting activities of the developing world — such as sepak takraw, a kick-volleyball game played in the Malay Peninsula, or kabaddi, the tag game in South Asia — which tend to receive less attention, even within their native countries.

The same is true of the way that major multinational corporations can use the Olympic Games as a global branding exercise, ignoring the way that the goods they promote can displace local products — and, ironically, even encourage unhealthy lifestyles.

### **Success for all**

If there is a conclusion to be drawn, it lies in the way that both science and sport are activities whose global dimension can emphasise a sense of solidarity between nations through the pursuit of shared goals.

But both also show us that competition must be tempered with cooperation if agreement is to be reached on how to achieve these goals, and what constitutes success.

Without this balance, an unrestricted quest for global supremacy not only encourages an unattractive form of nationalism — seen at its extreme in the Nazi-dominated Olympics in Berlin in 1936 — but also reinforces the gap between countries that have the resources required to succeed, and those that do not.

Conversely, where adequate funds are made available for local capacity building (as is the case with World Cup profits returned to local football organisations) both science and sport can make important contributions to international development.

Goals of cooperation and solidarity are unlikely to be foremost in the minds of Olympic competitors over the few two weeks.

But they must remain embedded in an inclusive Olympic spirit for the modern age, just as they need to underpin any effort to help science create a better future for everyone, not just those nations which aspire to Olympic — or scientific — greatness.

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Source: [Science & Development Network](#); Photo: London2012.com

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