

African cycling – dormant to dominant?

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That is the current world marathon record for men. Since 1960 the record has fallen regularly and the 2 hour mark is now talked about as a target rather than a barrier. African distance runners have repeatedly lowered this record, especially in the past decade. Among the 100 fastest marathon times ever, 99 are by African-born athletes.

Born to run

African distance runners do not seem to have superior aerobic abilities but they have better running economy than their Caucasian counterparts, even when matched for race time.[1] The VO_2 cost of running is lower in African runners and perhaps this is related to their anthropometry. Eritrean runners have lower body mass indexes, smaller maximal calf circumferences and longer shins.[2] In Kenya, it is not unusual for school-going boys to have BMIs as low as 15.5 and many of these children will walk and run over 10km to school and back each day.[3] Heavier legs come at great cost to running economy but the effect is even greater the more distal that weight is added.[4] One of the advantages of Kenyan and Ethiopian runners may be their exceptionally thin and therefore lightweight legs coupled with their unusually long and efficient Achilles tendons.[5] A new paper hints that African runners may also have superior resistance to muscular fatigue when compared with European athletes.[6] The key then to African distance running success is unlikely to lie in a single undiscovered “running gene” but is more likely due to a combination of genes, other intrinsic factors, as well as socioeconomic motivators.

Can African cyclists emulate the runners ?

On 4 July 2015, 22 teams will line up in Utrecht for the 102nd Tour De France. For the very first time, one of those teams will be from Africa. Chris Froome (Kenyan raised and South African educated) is claimed by some as an “African champion” but, in Team MTN Qhubeka (“Qhubeka” is an Nguni word meaning “to move forward”), Africa has a genuine cohort of riders from the African continent (13 of their 22 riders) including South Africans, Eritreans, an Algerian and a Rwandan. The first black African cycling stars are already emerging from these countries. In Eritrea, cycling has been the national sport since Italians introduced it at the advent of colonial rule. Despite the poor road conditions, pelotons of young cyclists are a common sight in the capital of Asmara. Local cycling stars like MTN Qhubeka riders Daniel Teklehaimanot, Natnael Berhane and Merhawi Kudus are national heroes. Eritrean dominance of African cycling is challenged only by the South Africans. For Team MTN

Qhubeka to develop an African Tour De France or world champion will necessitate African cyclists translating their running dominance into superior “cycling economy”.

Favourable cycling anthropometrics... and free altitude camps

Like their running compatriots, the Eritrean cyclists on Team MTN Qhubeka have very low BMI and body fat percentages, thin calves and long legs. Logically, many of the biomechanical features of Eritrean distance runners would benefit road cycling performance too. A low body weight is essential for a cyclist attempting to raise their sustainable power to weight ratio, the major predictor of uphill cycling performance.[7] Thin, light legs mean a lower rotational kinetic energy as the cyclist rotates the cranks. Being able to pedal at a high cadence reduces the force used per pedal stroke and is more efficient in long events.[8] Thin limbs also lower the frontal surface area of the cyclist and thereby positively affect aerodynamics. As Asmara sits at an altitude of 2300m, Eritrean cyclists likely benefit from the associated physiological adaptations.[9]

It would seem then that Eritrean cyclists have the necessary mix of physical attributes to challenge the best in the world, especially in the mountains. African cycling success is not hindered by a lack of talent but rather by the socioeconomic problems which make talent identification and exposure to high level coaching and racing difficult. Years of structured training, exceptional bike handling skills and more than a little tactical savvy are all required to have a chance of pulling on a leader’s jersey. It is with this in mind that Team MTN Qhubeka and its feeder team have sought out the best African talent in order to expose them to racing with and against experienced European riders.

Winning and a bigger picture

The team races to win but is realistic about their performance goals for their rising African stars. They also race for their charity partner, Qhubeka, to raise funds for 5 000 bicycles during their 2015 Tour De France campaign. These bikes and the countless others which the team has already funded will go a long way towards mobilising African school children. The team is unlikely to produce the

2015 maillot jaune but perhaps the first African Tour De France champion will be one of those 5 000 young riders to receive a bicycle thanks to their historic participation.

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