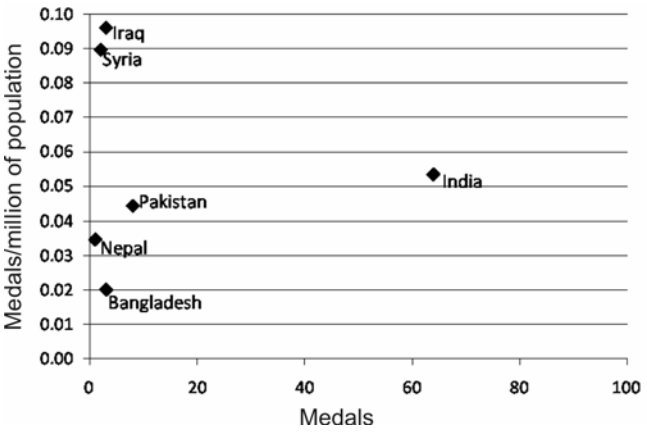

Figure 2. Graphical representation of performance at the 16th Asian Games on a quality–quantity map after zooming in to pick up the under-performers.

in terms of medals per capita? Forty-five countries took part. Of these, nine returned without a medal. Of the 36 countries that won medals (1577 in all) at Guangzhou 2010, tiny Qatar 'won' the honours (18.5 medals per million of population). Seven of the eight countries of the SAARC family were placed at the bottom (0.05 medals per million or less) and only Afghanistan had risen above this list (0.11 medals per million of population), just ahead of Iraq and Syria. On a per capita assessment, China, which collected the largest number of medals, was 5.75 times more effective than India at winning medals at Asiad 2010.

In Table 1, the indicator M/P (medals/per million of population) is a 'quality' measure. The quantity (read size) measures are P (million of population) and M (number of medals). The last column in Table 1 is the curious number $M/P \times M$. This is a product of a quality and a quantity term and perhaps best represents the 'performance' of a country. In this sense, six countries, led by South Korea, have actually out-performed China.

A graphical representation that best captures the process is given in Figure 1. Figure 2 is a zoomed-in representation that shows that the SAARC countries have performed very poorly. Sri Lanka, Maldives and Bhutan do not appear as they failed to collect a single medal each. Afghanistan, with 0.11 medals/per million rose just above this cut!

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Charcoal making: going green with black

The recent article by Jha *et al.*[1] demonstrates the wide applicability of biochar and makes interesting reading. As rightly pointed out by the authors, charcoal is perhaps the best example of biochar. Considering the interest that has been generated by Jha *et al.*[1], many readers would be interested in knowing how actually charcoal is made. During one of our recent field surveys to Kasera locality in Kangra District, Himachal Pradesh, we saw small hearths (Figure 1), locally called 'bhattis', used for making charcoal. From a distance these look like small huts and are so uniform as if a template has been used for making them. However, no templates are used. The observed huts roughly measured from 250 to 260 cm in width and 195 to 200 cm in height ($n = 6$). Each hut had an arch-shaped opening that extended half way up to the top and many small holes of 5–6 cm diameter on the side walls. It is through this arch-shaped window that the wooden logs are placed in the hearth and burnt to produce charcoal. There are no precise dimensions for the logs, but they are cut so that they easily slip into the hearth. Once the woody biomass has been properly stacked inside the hearth, it is ignited. The arch opening is now plastered and one can see smoke coming from the multiple holes. Slowly, one by one, these holes are also plastered and the biomass is allowed to burn in the absence of oxygen. After 3–5 days, when the biomass has burned and the hearth is not that hot, the plastered door is opened. It is inspected and left as such for some time. The charcoal is then collected and filled in gunny bags. Each filled bag weighs around 28–30 kg and is sold for Rs 300 per bag. According to the persons interviewed ($n = 11$), a hearth in which 25–30 q of biomass has been burned yields around 5–6 q of charcoal. This generally is used for heating purposes and is a source of greenhouse gases. However, the reported applicability of biochar for carbon sequestration[1] is a 'green side' of this black material, and perhaps an important one.

Figure 1. Hearths used for making charcoal. Note the logs scattered in the background and charcoal in foreground. Also visible is the smoke emanating from the hearths.

1. Jha, P., Biswas, A. K., Lakaria, B. L. and Subba Rao, A., *Curr. Sci.*, 2010, **99**(9), 1218–1225.

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