



The elephants

On 13 February I happened to be walking near St James Palace in London and was handed a leaflet about elephant poaching (the Illegal Wildlife conference was taking place there at the time). I was aware of poaching, but not on the horrendous scale described in the leaflet. The poaching is driven by soaring demand for ivory, especially from China, where it is carved into trinkets. It is estimated that if the current rate of slaughter continues, African elephants will be extinct in the wild within a decade.

Within the short term, the poaching operations are sustainable and, like fishing, will remain so until the very last elephant has been slaughtered, because the value of the good increases *pari passu* with its rarity. The slaughter is driven purely by the motive of financial gain—it is financed by ivory sales. Trade in ivory is largely illegal, as is the poaching itself. Evidently, enforcement of the illegality is inadequate. The initiative for the present conference came from a group of African presidents with the idea that only concerted action would have a chance of succeeding, not least because the whole supply chain, from poaching to sale of the finished product, appears to be largely in the hands of organized crime.

The problem is clearly very complex. The scientist might say “replace the ivory with a synthetic polymer”. Even existing polymers can provide very good substitutes; nanotechnology might make them truly indistinguishable. But by doing so the means of livelihood of the poachers would be destroyed. A similar dilemma confronted law enforcement agencies when they arrived in the Amazonian rainforest to destroy illegal charcoal burning ovens, whose voracious appetite was leading to forest destruction. Nevertheless, there is a difference between the excitement associated with elephant poaching compared with working in a factory producing synthetic polymer trinkets, whereas there is probably little difference, other than a certain loss of freedom, between working as an illegal charcoal burner and as an employee in some factory. The question of excitement *vs* boredom is especially pertinent in the case of Kenya, where cattle raiding has a long history: “after all,” commented the Provincial Commissioner of the Rift Valley Province in 1959, “stock theft is the traditional sport of the young men of many tribes, and the elders cannot be expected to act as kill-joys and stamp it out ...” (quoted by Anderson in [1]). Even at that level, the matter occupied a good deal of the attention of the colonial administration, and various “solutions” were attempted

(including a form of legalized raiding). Nevertheless, what was formerly essentially a sport evolved into rather brutal organized crime: since the late 1970s cattle raiding with automatic firearms such as the AK-47 had become the norm [2]. Elephant poaching could be seen as an even more brutal extension of “AK-47 raiding”. There is, of course, a tragic difference—whereas domesticated animals like cattle are presumably immune from extinction by humans, elephants are not (although the native population might not see it that way¹). There is a long, sad, history of animals that have been hunted to extinction by humans—the moa, the Patagonian giant ground sloth, the aurochs and Steller’s sea cow, to name but a few. Advocates of a large human population for Earth do not seem to realize that more and more wild animals are likely to be crowded out by humans.

It is difficult to perceive what real options are open to the participants in this conference, despite the fact that they have real power to implement countermeasures. An enormous increase in the number of wardens? How would it be financed? Coöperation with China to stop the import of ivory and ivory objects? It is quite likely that some of the officials involved in the matter are beneficiaries of the trade, given the general level of venality and corruption prevailing. At the very least, an attempt to use the latest thinking on complexity and its practical applications might lead to some novel insight for tackling the problem [4, 5]. Whatever is done, it would seem essential to appoint an inspector to track progress and report back, so that ineffectual or, worse, exacerbating measures can quickly be stopped and replaced by others.

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References

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¹ Elspeth Huxley makes an interesting comment on the attitudes of the native students at Legon University, Accra (Ghana): “ ‘Our students prefer theory to practical work’, a botanist told me, rather sadly, for they did not bring interesting specimens to be identified. You can see why. Plants are dull, ordinary things, everyone knows them, but in the cell structure of a leaf, or the process of photosynthesis, lies a bewitching mystery that Africans are glimpsing for the first time” [3]. Perhaps, to the poachers, elephants are also “dull, ordinary things”.