

READER RESPONSE

Clarifying MIKE and ETIS

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Introduction

The opinion piece by Reeve et al. (2003) essentially provides the authors' assessment of how the CITES Standing Committee should improve or interpret conditions related to the sale of ivory, which they believe to be flawed. These conditions were determined by the 12th CITES Conference of Parties (CoP) in regard to the one-off sale of ivory that has been agreed for Botswana, Namibia and South Africa, as long as a series of conditions are met. The purpose of this article is not to quarrel with the authors' right to express any opinions they want in regard to the conditions, although targeting the Standing Committee appears to overlook the fact that it has no power to alter Conference of Parties decisions. However, some of their recommendations and conclusions are based on incorrect or misunderstood information in regard to MIKE and ETIS. Our purpose here is to provide better information on which to forge any opinion.

MIKE—Monitoring Illegal Killing of Elephants

The issue of causality

The decision to develop a monitoring system to track the illegal killing of elephants in the field was initiated by the African elephant range states and agreed by CITES Parties at CoP 10 in Resolution Conf. 10.10. The text for this resolution was drafted by a working

group of CITES Parties set up for that purpose during the course of the meeting in Harare. It is this text that used the words 'determine whether there is a causal relationship between changes in illegal killing, for example, and CITES decisions'. It was not wording that was introduced by those persons who were then mandated to help with the MIKE design after CoP 10. Indeed, it was they who first requested the wording to be changed to what was agreed at CoP 11, by substituting the above with 'assessing whether observed trends are related to CITES decisions in regard to ivory trade and populations listings'. However, it is a wrong conclusion or a misinterpretation that this change was a tacit admission that MIKE could therefore no longer achieve what the parties wanted it to do in regard to CITES decisions. What in fact the change in wording recognized was that the reality of proving 'causality' through a scientific approach was unlikely but this did not mean that no relationship could be determined.

The best way to explain this is through the analogy of lung cancer and smoking. It is very unlikely that any doctor doing a post-mortem on someone who has died from lung cancer would be able to prove that that person died from smoking. But the use of a statistical approach has convinced today's world that there is a strong relationship between smoking and getting lung cancer. MIKE will therefore use a similar statistical approach to look at the relationship between the illegal killing of elephants and various possible explanatory factors.

The issue of site selection and coverage

To criticize MIKE in terms of site selection because the designated sites include low poaching areas, do not cover ecosystems, and so on, misses another fundamental point. The essence of MIKE is to look at the factors influencing elephant trends. It would increase the bias if MIKE did not have sites with different characteristics; otherwise, how would MIKE be able to do site comparisons and determine why poaching may be less in one site as compared with another, in direct response to its objective to assist with decision-making. The preliminary bias in the subregion of central Africa in regard to protected-area coverage has been fully recognized and is being addressed. For example, because a site is defined as a protected area does not preclude the extension of the monitoring effort into adjacent areas, which are not afforded the same degree of protection. Likewise, some areas may carry a protected status but in essence be mere paper parks with little or no patrolling or enforcement. Southern Africa, on the other hand, has very little bias in terms of site selection with a good cover of protected and non-protected areas, and in this context the reference to Chobe is misleading.

The issue of MIKE methodology

There is implied criticism of the distance sampling dung count approach to estimating elephants in forest sites. These criticisms include that such surveys need to be undertaken to a minimum standard, they are comparable only with aerial sample surveys, they use secondary indicators, and results can vary according to choice of software. It is already a MIKE principle that any survey should meet a minimum required standard. Dung sample surveys are a perfectly acceptable and scientifically acknowledged approach, and if anyone can suggest how a total direct count can be successfully done in a forest situation, then please get in touch. The same applies to the use of software. The MIKE TAG already guides which software to use in a consistent and systematic manner and which not to use. A possible unforeseen benefit of the distance sampling approach is that it may be an appropriate method for measuring carcass encounter rates, which is something random patrolling is unlikely to measure with any degree of accuracy or precision.

The second methodology issue deals with law-enforcement monitoring (LEM). The main conten-

tion is that MIKE is not using LEM as a management tool but only as a measure of effort linked to carcass discoveries. It is in fact a MIKE objective to help management make decisions at the site. This explains why site computers have been provided and a GIS link made to the database. Monitoring where law enforcement officers go, how long they take and what they find is common to both aspects of LEM and is the basis of the patrol form format. Surely this is an artificial split that cannot be attributed to MIKE. Nor is MIKE guilty of having imposed a top-down or over-sophisticated approach. The forms that MIKE uses were developed as a result of site-based work in savannah and forest situations. A process of harmonizing these forms was undertaken at the request of the range states, and a process of ensuring harmonization at site level, where LEM is already practised, is also adhered to. It is equally a false argument to suggest that the main task of guards is to protect and that monitoring where they go and what they do and find will detract from their main task. It is illogical to argue that LEM is a management tool and then argue that it detracts from the task of protecting ecosystems. Good feedback can and will guide where best to deploy often scarce protection resources.

The third methodology issue is that of measuring effort. If the patrolling information is properly and consistently provided, then measuring effort is not an over-ambitious objective for patrols, particularly as it is a post hoc measure and places no constraint on patrolling activities. It is not therefore the measuring of this sort of effort that is a problem per se. The correct issue is that MIKE, as it evolves, is looking to see how best to get carcass information, recognizing that patrols will not be the only relevant method. Obviously how best to measure effort expended in these alternative methods still needs to be determined. But the more methods MIKE can use, the stronger MIKE becomes.

The issue of site logistics

It is suggested that data analysis will be a problem because of the lack of scientifically trained field staff and because desktop computers cannot be run by solar power. Surely it is now widely accepted that computer skills and usage do not require a high degree of scientific or academic training. It is presumably suggested that desktops are not suitable for solar because they use more power than laptops. The reason that

flat-back monitors are being provided is because they use 40% less power than conventional monitors. Also, the use of modern storage batteries and invertors in today's solar power systems makes the use of desktops straightforward.

Some baseline issues

A requirement of the baseline is that each site must have a dossier capturing the information on any influencing factor relevant to that site. Thus, for example, the patterns of land use surrounding each site will have been identified. Confusion comes from suggesting that this baseline is not valid because it will not initially have been captured in a GIS. It is perfectly possible to establish a baseline and monitor changes in land use without a computer. It makes life easier to have it in a GIS, which is why that remains an objective of the database, but lack of GIS capability does not invalidate the use of hard-copy maps and reports.

The issue of MIKE needing more time appears to be premised on a concern that the recent Standing Committee 50 (March 2004) was going to decide whether a sale could take place. The fact remains that the Standing Committee cannot consider the sale until the conditions are met. In MIKE's case the condition requires the baseline to be in place and verified.

ETIS—Elephant Trade Information System

ETIS is a comprehensive information system to track illegal trade in ivory and other elephant products. It shares the same objectives as those set out for MIKE in Resolution Conf. 10.10 (Rev. CoP 12), with the difference that its aim is to record and analyse levels and trends in illegal trade, rather than the illegal killing of elephants. Thus as a monitoring mechanism for elephants under CITES, ETIS complements the focus of MIKE and holds a position equal to it.

Throughout their paper, the authors cite future operational and analytical links between MIKE and ETIS as an issue of considerable importance. If that is the case, then it is reasonable to question why the article contains no objective assessment of the status and results of ETIS to date. In fact, the achievements of ETIS are inexplicably and completely ignored in the article. The authors argue that more time is needed 'to collect baseline data on elephant populations, poaching and *illegal trade*'. But they fail to explain

that ETIS has not only a baseline but also 14 years of time-series data in place. The two ETIS analyses submitted by TRAFFIC to the 12th meeting of the Conference of the Parties to CITES (CoP 12) were based on 7124 and 7817 elephant product seizure records spanning the period from 1989 to 2002 and involving data from 67 countries.

At CoP 12, analysis of the ETIS data identified the major countries involved in the illicit trade in ivory and clearly established the significance of large-scale unregulated ivory markets as the principal driver of illegal trade in ivory today. The same ETIS reports also produced a trends analysis, showing an increase in illicit trade in ivory since 1998. The analysis attributed the influence of China as a rapidly emerging ivory market as the sole reason for the increasing trend in illicit trade. While this result was somewhat controversial at the time, it has since been corroborated with the results of a recent study of East Asia's ivory trade by Esmond Martin and Daniel Stiles, who also concluded that China has emerged as East Asia's leading manufacturer of ivory products. The results of the ETIS analyses directly led to the adoption of Decision 12.39, which targeted 10 countries—Cameroon, China, Democratic Republic of the Congo, Djibouti, Ethiopia, Japan, Nigeria, Thailand, Uganda and the United States—for an assessment of their compliance with the provisions of Resolution Conf. 10.10 (Rev. CoP 12) concerning internal trade in ivory.

In sum, the ETIS reports to CoP 12 fulfilled all of the requirements of the CITES Parties outlined for the monitoring systems in Resolution Conf. 10.10 (Rev.). Further, the ETIS reports directly led to the adoption of a series of decisions that subject unregulated domestic ivory markets in Africa and Asia to an intercessional process under the direction of the CITES Standing Committee. ETIS is now fully and credibly established as the world's leading tool for monitoring illegal trade in elephant products, and the CITES Parties are proactively using the results of the ETIS analyses to engage problematic nations and to address illegal trade issues.

MIKE and ETIS links

The issue of links between ETIS and MIKE is important. The intention and commitment to link the two analyses has been expressed on numerous occasions, and there is nothing to suggest that this is not unfolding in an acceptable manner. Indeed, it has always been the

objective to achieve as much linkage as possible. The article by Hunter et al. in this issue of *Pachyderm* demonstrates some of the tangible ways that such links should and can evolve. But there are several levels through which this can occur, including data collection, the sharing of database components and data analysis. This can be illustrated with three examples.

In terms of data collection, if law-enforcement actions at a MIKE site leads to the seizure of ivory or other elephant products, this qualifies as a data point in both systems. A mechanism has been put in place to isolate ivory and elephant product seizures within the MIKE data collection process to ensure that all such records are reported to ETIS as well. It needs to be appreciated that such an occurrence is actually rather rare, but a cross-checking system is now in place to ensure that MIKE records become part of ETIS as appropriate.

As a comprehensive information system, MIKE will use key components of ETIS as appropriate. For

example, subsidiary databases that hold background economic variables and information on domestic ivory markets are a jointly shared resource.

Finally, the issue of data analysis looms large as a future area of direct collaboration. At CoP 12, while ETIS produced a full analysis, MIKE had not developed to the extent that it could issue an analytical report. In the future, however, both systems will be producing analytical results and an integrated analysis will be attempted. At present, MIKE needs time to acquire sufficient data to be able to conduct such an analysis.

Reference

- Reeve, R., Tuite, C., Gabriel, G., Bell, J., and Pueschel, P. 2003. The proposed sale of ivory from Botswana, Namibia and South Africa: conditions and verification. *Pachyderm* 35:115–131.