

CONVENTION ON INTERNATIONAL TRADE IN
ENDANGERED SPECIES OF WILD FAUNA AND FLORA



Monitoring the Illegal Killing of Elephants (MIKE)
Eleventh meeting of the Technical Advisory Group
Nairobi, 23-24 April 2011

MINUTES OF THE TENTH MEETING OF THE MIKE TECHNICAL ADVISORY GROUP
(NAIVASHA, 30-31 MAY 2011).

In attendance:

- Colin Craig, MIKE TAG member, Southern Africa
- Moses Kofi Sam, MIKE TAG member, West Africa
- Aster Li Zhang, MIKE TAG member, Southeast Asia
- Raman Sukumar, MIKE TAG member, South Asia
- Kenneth Burnham, MIKE TAG member
- Anil Gore, MIKE TAG member
- Simon Hedges, MIKE TAG member
- Tom Milliken, ETIS Director
- Tom De Meulenaer, Coordinator, MIKE Central Coordination Unit (Chair)
- Julian Blanc, Data analyst, MIKE Central Coordination Unit
- Sebastien Luhunu, MIKE Subregional Support Officer (SSO), Central Africa
- Martha Bechem, , MIKE Deputy Subregional Support Officer (DSSO), Central Africa
- Mahaman Sani Massalatchi, MIKE Subregional Support Officer (SSO), West Africa
- Yaw Boafo, MIKE Deputy Subregional Support Officer (DSSO), West Africa
- Tapera Chimuti, MIKE Subregional Support Unit, Southern Africa
- Margaret Onyango, MIKE Central Coordination Unit
- Diane Skinner, IUCN/SSC African Elephant Specialist Group
- Bob Burn, University of Reading, ETIS TAG *ex-officio* member
- Mike Norton-Griffiths, consultant MIKE (for agenda item 8)
- Dan Stiles, consultant AfESG (for agenda item 17)

Absent with apologies:

- Tony Lynam, MIKE Subregional Support Unit, Southeast Asia
- Iain Douglas-Hamilton, MIKE TAG member, Eastern Africa
- Martin Tchamba, MIKE TAG member, Central Africa
- Liz Bennett, MIKE TAG member
- Holly Dublin, MIKE TAG member
- Hugo Jachmann, MIKE TAG member
- Edison Nuwamanya, MIKE Subregional Support Officer (SSO), Eastern Africa

Opening of the meeting

The MIKE Coordinator opened the 10th meeting of the MIKE Technical Advisory Group (TAG10) by welcoming all participants and highlighting the presence of all Asian TAG members and the participation two experts: Mike Norton-Griffiths, who conducted a progress evaluation of the MIKE programme in Africa, and Dan Stiles, who undertook an elephant meat study in Central Africa for MIKE under the auspices of the IUCN/SSC African Elephant Specialist Group (AfESG). The results of these studies would be presented and discussed later during the meeting. He provided apologies from Liz Bennett, Iain Douglas-Hamilton, Holly Dublin, Hugo Jachmann, Tony Lynam, Edison Nuwamanya and Martin Tchamba. He mentioned that full sets of working documents were available to everyone, and that Bob Burn would attend the second day of the meeting.

The Director of the ETIS programme noted that with the exception of Anil Gore, no other member of the ETIS TAG was in attendance and explained that therefore, no ETIS TAG would be convened. From an ETIS perspective, the main interest of the meeting lay in the analytical and reporting interface with MIKE.

1 Adoption of the agenda..... TAG10 Doc. 1

The TAG was invited to comment on the agenda. Raman Sukumar asked that the MIKE programme in Asia received specific attention. The Coordinator responded that this would be covered under agenda item 15, and that it would be useful for the Asian TAG members and relevant MIKE staff to meet in the sidelines of TAG10 to agree on the rollout of the MIKE programme in the Asian subregions, including timelines.

2 Adoption of the working programme TAG10 Doc. 2

The TAG agreed to deal with items 1 to 7 on day 1, and to move agenda items 15 and 17 to the first day of the meeting to enable more time for discussions and side meetings if necessary. During the second day, all analytical issues and the outputs of recent TAG and technical workshops would be addressed. The working programme was then adopted taking the amendments into consideration.

3 Minutes of the 9th meeting of the Technical Advisory Group (TAG9) TAG10 Doc. 3

The Coordinator apologized for the late circulation of the minutes of TAG9, inviting the members for comments and adoption. Anil Gore drew attention to a point raised on country-level analysis of MIKE data. The MIKE Data analyst agreed that elephant range States had requested country-level analyses, but noted that the MIKE sample was never intended to be representative at the national level, as evidenced by the many countries that had only one site. In addition, the poor levels of reporting on the part of a number of countries made it difficult to undertake such analyses. It was agreed that this needed to be discussed later. Raman Sukumar asked for clarification on the final page of the draft minutes that stakeholders in Asia were not supportive of the MIKE programme. Simon Hedges clarified that a few key individuals in the had been opposed to MIKE, but that this appeared to be changing of late. The Coordinator suggested coming back to this issue under agenda item 16. Members were urged to submit any further comments on the minute's later if need be. The minutes were then approved.

4 Progress on the action points agreed to at TAG9 TAG10 Doc. 4

The Coordinator introduced and reviewed the action points outlined in document TAG10 Doc.4:

- 20 action points had been completed: all action points under items 1, 2, 3, 8, 12, 13 and 16; 4 of 10 action points under item 4; and 6 of 8 action points under item 6.
- 19 action points were ongoing: all action points under items 7, 9, 11, 14 and 15; 2 action points under item 4; 3 action points under item 5; and 1 action point under item 6.
- 11 action points were not done: 4 action points under item 4; 1 action point under item 5; 1 action point under item 6; and item 10.

The TAG then discussed a number of items and action points in greater detail.

- *Item 4: Progress on the action points agreed to at TAG9*

The Coordinator explained that the TAG had requested to look into the quality of MIKE data emanating from the sites, utilizing the knowledge of the Subregional Support Officers (SSOs). This had not been done in a systematic manner, but some information might be provided by the SSO under agenda item 15 or collected through MIST. If such evaluations were to be undertaken in a more systematic manner, operational guidance would be required from the TAG. The Data analyst proposed that the MIKE Central Coordination Unit (CCU) and the TAG develop a suitable data quality monitoring system. He also suggested that quality control could be enhanced using randomized *in situ* checks, but noted that this would have cost implications. Mike Norton-Griffiths recommended undertaking a technical, systematic audit to understand what and how data had been collected in the MIKE sites.

ACTION: CCU to prepare draft scoring system for SSOs to complete on an annual basis; TAG to review scoring system.

Raman Sukumar suggested that TAG members review the raw carcass reports that were submitted. It was agreed that the carcass data should be shared with the relevant regional TAG member, as well with the CCU, for quality control and review. This verification could also happen after the analysis had taken place, with findings incorporated back into the system for further analyses. The SSOs clarified that they did not expect problems in collaborating on this data review with the subregional TAG members for Southern Africa or West Africa, but that not all subregional TAG members had shown high levels of interest in MIKE data or regional MIKE operations. It was noted that it would therefore be useful to incorporate assistance in data quality control in the Terms of Reference (TOR) of regional TAG members. The SSOs advised to make sure that the Subregional Steering Committees agreed with the protocol of having TAG members review the data, given the strict data sharing policies in place.

ACTION (CCU): TAG TOR to be amended to include data quality control functions; amended TOR to be approved by range States at Subregional Steering Committee Meeting or African Elephant Meeting.

Raman Sukumar drew attention to the action point concerning elephant population surveys ("*Ensure that all elephant population surveys are made available to the scientific world for critique and peer review, as well as for quality control.*"). Ken Burnham wondered the extent to which the TAG could get involved in survey design and review, pointing out that TAG members were generally not involved in elephant survey designs and subsequent reviews. The Data Analyst pointed out that MIKE contributed funding to a few surveys and could in these circumstances insist on adherence to MIKE survey standards, but otherwise it could only encourage the use of these standards. He also reminded the TAG about the internal website maintained by the AfESG and MIKE which listed all African and Asian elephant survey reports and upcoming surveys, and not just in MIKE sites, and to which all TAG members had access. He noted that the new African and Asian Elephant Database would encourage data providers to allow redistribution of survey reports. Mike Norton-Griffiths argued that there was a clear need for international elephant survey standards and a system to classify surveys according to their technical quality and reliability (cfr. Action point: *Explore development of 'decision tree' to determine quality of elephant surveys and relationship with MIKE standards; consider India's quality control of population surveys*). Simon Hedges announced that elephant surveys were underway in Indonesia, Cambodia and Laos and that reports would be circulated.

Concerning the action point *Apply the agreed minimum criteria for adding new MIKE sites on a voluntary basis*, the Coordinator reiterated that in addition to scientific and technical criteria, consideration needed to be given to what the range States themselves wanted and committed to. In practice even the most basic criterion, i.e. having elephants in the MIKE site, was difficult to enforce. He noted that the issue would be fully reviewed under agenda item 15. Diane Skinner sought clarity on the distinction between sites in the MIKE sample and sites that use MIKE monitoring methods but are not included in the analysis. In this context, Dan Stiles asked whether the LEM information collected by WWF in Central African protected areas was transferred into MIST. The SSO for Central Africa responded that this any data being entered into MIST or MIKE databases at MIKE sites is transmitted to the MIKE programme, but that some sites were still not using these systems. The Data Analyst noted that MIKE should promote and facilitate the collection and management of relevant data at the site level, regardless of the database. Yaw Bofo pointed out that valuable

information could be extracted from certain West and Central African survey reports, and that such data could reinforce the data in the MIKE system.

- *Item 5: Current and long-term objectives of MIKE*

Concerning current and long-term objectives of MIKE, the Coordinator reminded the TAG of the results of the third African Elephant Meeting in November 2010 where the African elephant range States provided inputs into the revision of Resolution Conf. 10.10 (Rev. CoP15). He stressed their wish to be involved in the review of the MIKE and ETIS analyses, and proposed that eventual comments from elephant range States be attached as an annex to the MIKE analysis. There was some concern as to who would actually conduct such reviews, and whether time limits would be set. There was also some concern that referencing countries and their comments could cloud debates in view of the sharp divide between some countries about elephant management and ivory trade, but it was recognized that this was an existing, long-standing practice under CITES. The TAG noted that such referencing could also be positive, exemplified by the regular posting by ETIS of countries involved in the ivory trade leading to decisive actions by China.

Concerning timing for the CoP, MIKE (and ETIS) documents had to be submitted to the CITES Secretariat 150 days before the start of the CoP, precisely to allow Parties ample time to provide comments and inputs. He noted that MIKE documents present an independent, technical assessment based on data collected in a systematized manner and approved through the MIKE system. However, the SSOs stressed that elephant range States would want to see the data and analyses prior to their posting on the CITES website. The Coordinator explained that prior to CoP15, the meetings of the Subregional Steering Committee had been used to present the interim results of the analysis before these had been finalized and submitted to the CITES CoP. This effort had been greatly appreciated by the African elephant range States involved. If at all possible, a similar approach should be organized in the run up to CoP16. The MIKE data analyses for SC61 and SC62 would have helped elephant range States in understanding and preparing for the outputs of MIKE.

Concerning the revision of Resolution Conf. 10.10 (Rev. CoP15), the Coordinator indicated that he would ask the Standing Committee on how it intended to consider the TAG's inputs into the revision process.

- *Item 6: MIKE analytical developments*

Most of the action points had been addressed in some way and would be discussed later during TAG10 in the context of the review of the new MIKE analysis.

In particular, on the questions about information on droughts, high rainfall and other events which might influence natural mortality, the Coordinator asked whether any of the TAG members would like to take on the task of creating a checklist which the SSO can complete annually in a systematic fashion for inclusion in the analysis. The Data Analyst pointed out that time series of net primary productivity (NPP) or Normalized Difference Vegetation Index (NDVI) could be used to help with this exercise. Colin Craig was of the opinion that the best way to get information on natural mortality would be to directly measure it, while Raman Sukumar stated that changes in natural mortality over time were of greatest interest. Raman Sukumar agreed to work on mortality issues from the Asian side, and Mike Norton-Griffiths from the African side.

ACTION: Raman Sukumar and Mike Norton-Griffiths to compile data on changes in natural elephant mortality for MIKE sites in Asia and Africa respectively.

- *Item 7: Data collection forms*

The simplification of data collection forms was ongoing but the TAG noted that even with the most simplified forms, rangers sometimes lacked the motivation to complete them. While focusing on facilitating data collection, even the simplest information, like PIKE, remained difficult to collect in many sites. The TAG observed that the programme was lacking clear agreements on the responsibilities of elephant range States in implementing MIKE. It was noted that Resolution Conf. 10.10 (Rev. CoP15) was the only element that put some rather vague obligations on the elephant range States that participated in MIKE.

Raman Sukumar committed to examine how “effort” was measured in India and other South Asian sites, as this remained a very important variable to document, and not just for investigating PIKE.

TAG members made a few suggestions on improving data recording technologies, which were evolving quickly (such as rechargeable GPS and camera-GPS). The SSOs noted that it would be unrealistic to expect every patrol to have such technologies available, and warned of the danger of raising expectations that could not be met. They also noted that a number of sites complained of not being able to collect MIKE data because they had no batteries for GPS, even though the MIKE programme had been contributing towards the purchase of batteries. The Coordinator suggested that the CCU could collect the information that TAG members had available and test out or evaluate the various technologies.

- *Item 10: Compiling and utilising data on illegal killing from a variety of unofficial sources and the potential for integration with MIKE*

The Coordinator asked for feedback from the Task Force, composed of Ian Douglas-Hamilton, Simon Hedges and Liz Bennett, that was to explore ways to collate opportunistic reports on poaching in a systematic, orderly fashion and to evaluate, quantify and ‘score’ such information for compilation in a database. Simon Hedges clarified that Holly Dublin and Tony Lynam were also members of this Task Force. He suggested starting all over again by email and formalizing the Task Force’s operation through Terms of Reference, which he was prepared to develop. The Coordinator suggested that the information from a paper that the AfESG had prepared for the third African Elephant Meeting, and the recent evaluation of MIKE could inform the Task Force. Aster Lee stressed that such information would not be included in the MIKE analysis, but could provide good context.

ACTION: Simon Hedges to initiate email discussion with members of task force on unofficial sources of information, to agree on whether task force needs to go ahead and, if so, to agree on terms of reference.

- *Item 13: Operation of the MIKE-ETIS research network*

All action points had been acted upon. Out of 30 research questions, only 4 or 5 had received the requested justifying paragraph by the proponent, and all others had been eliminated. The coordinator reminded the TAG that a list of research questions was still being maintained, but that any suggestions for inclusion in the list needed to be accompanied by explanatory paragraphs.

The TAG supported the approach of the CCU in this matter.

5 Evaluation of MIKE Phase II in AfricaTAG10 Doc. 5

The Coordinator introduced document TAG10 Doc.5, focusing on the Executive Summary and particularly the recommendations pertaining to the TAG. Two recommendations were to be discussed under separate agenda items: the membership of the TAG (agenda item 6); and MIKE standards for conducting elephant surveys (agenda item 12).

Mike Norton-Griffiths then presented the main findings and recommendations of the evaluation. Phase II had displayed significant progress towards implementing the MIKE system and had produced important results. Within the MIKE CCU, which was re-established and embedded in UNEP-DELC, a critical factor had been the recruitment of a full-time data analyst, which had allowed the formalization of the baseline and the elaboration of a first comprehensive analysis of MIKE data for CoP15. The performance of the subregional programmes had improved during Phase II. Several non-participating African elephant range States wished to join the programme, and participating range States wanted to add new MIKE sites. Monitoring was moving from specific sites to wider areas and there was increasingly cross-border cooperation. Finally, there was a good uptake of MIST as the preferred method for law enforcement monitoring.

The consultant was of the opinion that there were also a number of concerns. The location of the CCU in UNEP was believed to create bureaucratic hurdles and to isolate the MIKE programme from its constituents. The planning and coordination of SSO activities was problematic. He thought that there was a rift between what SSOs did and their Terms of Reference, perhaps due to circumstances. Specifically, while SSOs were making more national and site visits, some seemed to over-concentrate

on some sites at the expense of others, recognizing that this may be for operational reasons. While data flows were closely monitored, project management was not. Outstanding concerns already brought up in 2004 included inter-departmental conflicts in certain range States which prevented the normal implementation of MIKE, and a high rate of turnover of National and Site Officers. Importantly, many elephant range States still regarded law enforcement monitoring as an additional, externally imposed burden and had not institutionalized it as a normal management activity. Concerning MIKE operating as an 'early warning' system, he noted that thoughts were diffused at this stage but that the feasibility could be pursued. He cautioned against 'mission creep' as the pressure to expand MIKE increased, with more countries and sites wanting to join, existing sites wishing to monitor wider areas, and requests to embed an 'early warning system' within MIKE. The danger was that MIKE could evolve into a general law enforcement support programme for protected areas.

MIKE maintained good institutional relationships with IUCN as the host of the Subregional Support Units, but it was recommended to enhance programmatic linkages as well. The relationship with the AfESG appeared to work well. On the other hand, African elephant range States had expressed uneasiness with the manner in which ETIS reported its findings, 'surprising' them with its results with little prior consultation.

The evaluation's recommendations included:

- review the location of the CCU. If it is decided that it should remain within UNEP, it should make better use of DELC and other UNEP divisions for leverage;
- review the Terms of Reference for SSOs, MIKE National Officers, and MIKE Site Officers;
- review elephant range State commitments and MIKE site management protocols with the aim to develop formal 'contracts' between MIKE and participating range States and Sites; and
- develop new standardized ranger curricula for training institutions.

Regarding the TAG, Mike Norton-Griffiths specifically recommended:

- to consider revolving and regularly renewing its membership;
- to develop greater sensitivity towards subregional issues and problems;
- to redraft the MIKE aerial elephant survey standards;
- to revisit the MIKE dung count standards;
- to draw up revised criteria and procedures for: accepting new range States to the MIKE programme; reassessing the commitment of existing range States; adding new sites to the MIKE programme; reassessing existing sites in the MIKE programme;
- to assess the feasibility of developing MIKE into an early warning system; and
- to create models (conceptual or statistical) of the ivory trade chain to focus and prioritize research and integrate data from MIKE, ETIS and IUCN/SSC.

Importantly, the MIKE programme at the subregional and national level had very good buy-in. But at international and continental levels, this was not working well because MIKE findings tended to be ignored in CITES discussions on ivory trade. The African subregional economic groupings, through UNEP, could perhaps be leveraged to acquire more awareness and involvement from high-level politicians, particularly before CITES COPs and to settle disagreements between elephant range States. Mike Norton-Griffiths also recommended that Asian ivory consumer countries be invited to such discussions. Finally, he warned about the high costs of running the MIKE programme, largely due to its considerable capacity building activities, and recommended that fundraising be a priority if MIKE were to continue to deliver on its mandate.

In discussions following this presentation, Dan Stiles asked about how to admit new sites that did not have historical longitudinal data that contributed to the MIKE baseline. Ken Burnham clarified that historical data was not necessarily very important for implementing a very long-term monitoring

programme such as MIKE. Additionally, the more sites there were, the more elephant populations were covered and the less concern there would be about the 'representativeness' of the site sample.

The ETIS Director questioned the evaluation's recommendations concerning ETIS, adducing that the evaluation was not supposed to be about ETIS and that ETIS had not been consulted at all. He pointed out that, through the production of regular country reports, ETIS does attempt to keep range States about the data that goes into its analyses. The TAG agreed that the participation of ETIS in MIKE Subregional Steering Committee meetings, which had been the rule in recent years, allowed for more in-depth discussions about the data and the analyses between ETIS and the range States.

Concerning the frequency of site visits, the SSO from Southern Africa noted that in some cases, countries would continuously call upon the MIKE Subregional Support Unit while others had inter-departmental conflicts that prevented meaningful interactions with the SSU. Yet others implemented MIKE without problems and therefore rarely engaged the SSU. Some TAG members asked whether war or other civil problems had prevented visiting certain sites. Mike Norton-Griffiths recognized these realities and recommended that the reasons for skewed visit patterns should be properly documented and clarified. The MIKE CCU acknowledged that, while some of this information was available, a system needed to be devised to set visit targets and track progress systematically, and that progress could be reviewed by Subregional Steering Committees to address problems.

With regard to an 'early warning' role for MIKE, the TAG concluded that this was not within the objectives of MIKE, and would have to be formalized in revisions of Resolution Conf. 10.10 (Rev. CoP15) before it could be fully explored. Additionally, extra resources would need to be allocated to develop the MIKE monitoring system in such a direction. The ETIS director also questioned the need for an early warning mechanism, given that little action had been taken in a number of problem countries despite repeated warnings by ETIS over the course of the previous 10 years. While Mike Norton-Griffiths agreed, he reminded that this functionality seemed a desire of at least some African elephant range States.

Simon Hedges was of the opinion that in Asia, despite less funding than Africa, good MIKE data was becoming available. The model for funding had been bilateral support between NGOs and Asian elephant range States for the implementation of MIKE in particular sites. In some ways, this less onerous model was perhaps more sustainable. Mike Norton-Griffiths reminded that even in Africa, MIKE activities in 40% of the sites were fully donor-dependent. The Data analyst agreed with Simon Hedges, but cautioned that no recent MIKE data had been obtained from South Asia, and that no MIKE data was available from most of Southeast Asia, and thus Asia was currently not fully contributing to the analytical objectives of MIKE. It was noted that, although the programme had been mandated by the Parties, there was overall less support from Asian elephant range States than there should. There was agreement on the need to build and maintain momentum in that region.

The Coordinator asked the TAG to focus on the recommendations concerning criteria and procedures for adding range States, adding new sites, re-assessing commitment of existing range States and reassessing existing sites. Ken Burnham observed that originally, the TAG had reviewed reports, documents, standards and criteria, but that it was now being asked to set those standards, while the work continued to be on a voluntary basis.

Colin Craig suggested that when considering whether to incorporate a new site, an important criterion should be that it would help to improve the available information, and that this should be quantified in some way. The relative value of a new site could be related to whether it would essentially duplicate existing sites or represent an area with different characteristics. Likewise, current sites that provided no information should be dropped. Anil Gore was however of the opinion that motivation was crucial: if an elephant range State wanted to add a site, this indicated a certain enthusiasm for ranger-based data collection which should be taken advantage of, taking into account the scientific and technical needs. He agreed that when an elephant range State proposed a new site, criteria and a procedure for deciding whether or not to include it should be available; existing sites should go through a re-assessment process which should be fully documented and reported on.

Others suggested that the criteria should include matching funds from the elephant range State, and that this could even be articulated in agreements between sites and range States and MIKE. Moses Kofi Sam pointed out that the criteria should remain rational should not exclude most existing sites. The TAG agreed with Moses Kofi Sam's proposal to convene a group to explore this further, consisting of Ken Burnham, Simon Hedges and Mike Norton-Griffiths, which would report back to the meeting.

Later in the meeting, Mike Norton-Griffiths presented the summary results of the TAG working group on criteria for adding sites and elephant range States to MIKE.

- For new sites:
 - New site should be able to conduct and enhance the MIKE work
 - Required information: site description; clear map of site boundary; elephant population numbers and status; management resources, funding and manpower; commitment to appoint site-based Site Officers and to carry out LEM patrols.
 - If a site meets the criteria, MIKE should take on the capacity building with some logistics provision.
- For new Range States:
 - Appoint MIKE National and Site Officers
 - Appoint Steering Committee members
 - Establish functioning institutional arrangements to implement MIKE.

Moses Kofi Sam emphasized the importance of ensuring that the MIKE Phase III project included a budget for possible new MIKE sites.

The TAG agreed that the working group's suggestions needed to be expanded and finalized for presentation to the MIKE-ETIS Subgroup of the Standing Committee.

ACTION: CCU, in coordination with working group (Moses Kofi Sam, Ken Burnham, Simon Hedges and Mike Norton-Griffiths) to refine and expand criteria for adding new MIKE sites for presentation to the Standing Committee.

6 Membership and Terms of Reference of the TAG.....TAG10 Doc. 6

The Coordinator introduced document TAG10 Doc.6 in reference to the recent evaluation of the MIKE Phase II project in Africa, which had recommended that the membership of the MIKE TAG should to be refreshed. The current TOR had been prepared by CCU and approved by the CITES Standing Committee, and therefore the same process should be followed if changes were to be made. He asked for TAG's inputs to revise its current Terms of Reference, with a view to submitting TAG recommendations for approval by the Standing Committee.

Simon Hedges noted that there was value in institutional memory and in having people in the TAG who had experienced MIKE since its inception, cautioning that too much turnover could result in a loss of continuity.

While agreeing with this intervention, others recognized the need to change and rotate the TAG membership from time to time, and particularly that of the subregional TAG members . The current rule about appointments for 'an indefinite term' therefore needed to be modified. Moses Kofi Sam suggested terms that TAG membership be reviewed every two meetings of the Conference of the Parties to CITES, with the possibility of re-appointment. The Coordinator agreed that this schedule would be sensible, and recommended that the subregions should periodically review or confirm the membership of the regional TAG members. In this context, Moses Kofi Sam warned against having the subregions 'elect' their TAG members, stating that appointment to the TAG should be based on knowledge of the region, while accepting the need for consultation with elephant range States.

The chairmanship of the MIKE and ETIS TAGs, which were currently fulfilled by the MIKE Coordinator and ETIS Director respectively, was discussed. The Coordinator pointed out that this arrangement had been criticised, but Tom Milliken pointed out that there was a practical logic for the Secretariat and TRAFFIC serving as Chairs in technical MIKE and ETIS meetings.

The TAG was also in favour of having the option of co-opting members for particular issues. The current practice whereby outside expertise could be contracted to tackle specific questions should be

maintained. With regard to the TAG peer-reviewing technical work that was undertaken by one of its members, the option of outsourcing such peer reviews was suggested.

Simon Hedges requested to consider the possibility of adding a day to TAG meetings to tackle action points agreed to during the meeting, rather than hoping that they would be addressed through email correspondence.

The ETIS Director was of the opinion that the overall composition of TAG might have to be reconsidered, particularly when MIKE and ETIS would increasingly move towards integrated analyses and reporting. This seemed to call for bringing the MIKE and ETIS TAG together.

On a proposal from the Coordinator, the TAG created a drafting group composed of Tom De Meulenaer, Moses Kofi Sam and Simon Hedges to review the existing Terms of Reference and propose amendments.

Later in the meeting, Moses Kofi San presented the results of the working group on the Terms of Reference for the TAG. The following concepts were proposed to be included in updated ToRs:

- the MIKE and ETIS TAG should merge, with a single list of global experts and current subregional MIKE TAG members becoming actively involved in and aware of subregional ETIS issues so that they could represent and advise both monitoring systems;
- the TAG membership should be renewed every 3 years (from CITES CoP to CoP), with a maximum individual term of 6 years or two consecutive CoPs;
- the subregional TAG members should receive full subregional support for their nomination and throughout their term.

The TAG agreed that the Terms of Reference of the TAG should be amended along these lines for consideration by the Standing Committee.

ACTION: CCU to draft amended terms of reference of TAG for consideration by the Standing Committee.

7 Long-term implementation of MIKE.....TAG10 Doc. 7

The Coordinator introduced document TAG10 Doc.7, referring to the MIKE Phase III project concept and document TAG9 Doc.5. He gave a brief on the status of the MIKE programme in each subregion.

For Africa, MIKE would continue to operate until December 2011, with a probable extension until April 2012. The CCU was in discussions with the European Commission regarding a Phase III project for Africa, which would continue the programme for at least another 3 years until after the 16th meeting of the Conference of the Parties in 2013. The MIKE Phase III project concept had been developed in collaboration with IUCN, and was shared with the European Commission. It would be submitted to the Brussels-based secretariat of the African, Caribbean and Pacific Group of Countries (ACP secretariat). The CITES Secretariat and its MIKE programme were organizing further support for the new project phase, with input from IUCN.

For Southeast Asia, funding was available to implement in partnership with WCS a regional MIKE programme for at least two years. The budget would be complemented with country-specific, targeted funding from the UK Darwin Initiative and the US Fish and Wildlife Service.

In the case of South Asia, discussions have been initiated with important stakeholders to re-establish a MIKE Subregional Support Unit. The Asian TAG members would be invited to assist in this effort.

Ken Burnham was of the opinion that long-term monitoring programmes usually did not give tangible returns in the first few years. MIKE was now bearing fruit and had started to generate interesting data – it was time to build on this foundation and MIKE should be encouraged to continue.

The ETIS Director observed that every African elephant range State seemed to value MIKE and ETIS, and wanted these programmes to be maintained, and that a same vote of support and confidence from the Asian elephant range States would be important. Aster Lee responded that China had established

the International Fund for Elephant Conservation, which would welcome proposals from MIKE and ETIS. He suggested holding an Asian Elephant Meeting, similar to the African Elephant Meetings, to create a broad platform for MIKE and ETIS. Simon Hedges also saw Subregional Steering Committee meetings in South and Southeast Asia as opportunities to obtain strong buy-in from countries.

In discussions about the MIKE Phase III concept note, it was proposed that the concept could have objectives and outputs that would be new and appealing, and perhaps related to research and analyses along the ivory supply chain. The Coordinator suggested using the outputs of the recent TAG workshops to that effect.

In terms of strong new outputs, Ken Burnham observed that MIKE had now the potential to estimate the absolute numbers of elephants that were being illegally killed every year, which would address a key concern of CITES. The ETIS Director was of the opinion that the collaboration between IUCN, ETIS and MIKE to jointly analyse the elephant conservation status and the ivory trade chain could represent a major breakthrough. Ken Burnham agreed that this could lead to new insights in the next few years.

Dan Stiles suggested that it might be helpful to improve the visibility of MIKE in the media, but the CCU replied that many journalists do not seem to be too interested in MIKE, but agreed there was a need for a more proactive engagement of the media.

In response to questions about the scheduling of the grant for Phase III, the Coordinator explained that this was not known because the procedures for allocating this kind of grant (i.e. following negotiations between the European Commission and the ACP secretariat) were not firmly established. This was coupled with major changes in the relevant Departments of the European Commission. Recognizing the importance of MIKE, the Secretary-General had given his assurances that the Secretariat would do its best to support the continuation of MIKE if a gap between phase II and phase III were to arise.

The Coordinator also informed the TAG that he would not be coordinating MIKE Phase III because he would be taking a position at the CITES Secretariat. He expected to be in Geneva in September and to continue supporting MIKE during a hand-over period. He expressed the intention that the Data Analyst position would be reclassified to a more senior position with responsibility over the technical and scientific direction of MIKE.

- On a suggestion from the ETIS Director, the TAG agreed to express concern that the the good momentum that had been generated on integrated analyses could be lost if there was a funding hiatus, and that it was essential to minimize disruptions in ETIS, IUCN or MIKE to consolidate this progress. The TAG established a drafting group to articulate this concern. Later in the meeting, a draft statement from the MIKE TAG was presented which was further discussed and agreed as follows for presentation to the Standing Committee:

The Technical Advisory Group:

- *Supports the work that has been done to explore the linkages between MIKE, ETIS and the IUCN/SSC elephant monitoring systems and the ivory supply chain;*
- *Recognizes the progress made in recent workshops to identify specific opportunities for analytical, reporting, and operational engagements; and*
- *Expresses concern that the valuable momentum towards such linked MIKE/ETIS/AAED analyses - and on-the-ground implementation of MIKE - achieved in Phase II will be lost if there is a hiatus in funding before Phase III.*

The TAG therefore recommends that the CITES Secretariat and the MIKE-ETIS Subgroup of the Standing Committee work, in consultation with the TAG, to facilitate continued data collection and the further development of linked analytical models by pursuing vigorously all funding opportunities as a matter of urgency.

Analytical issues

8 Outcome of the workshop ‘Assessing factors influencing illegal killing of elephants and illegal trade in ivory in support of the development of analytical frameworks for MIKE and ETIS’TAG10 Doc. 8

The ETIS Director presented document TAG9 Doc.8 and the outcomes of the workshop. He noted that CoP15 was the first occasion in which both ETIS and MIKE had submitted comprehensive analyses of the information collected through these systems. He outlined the objectives of the workshop (further enhancing and integrating outputs of the two systems, and bringing in data on live elephants), the results for each set of drivers that the workshop had identified (grouped under “population status”, “illegal killing”, “transit”, and “consumption”). He summarized the workshop’s findings regarding causal relationships with indications on where data are available and lacking. From an ETIS perspective and with Darwin Initiative support, work had continued to improve the analytical model. If ETIS data was to be linked back to the source of the ivory, and therefore to elephant population and MIKE data, the ETIS definition of ‘Origin’ would need to be changed into an elephant range State, rather than being the traceable point of origin of the ivory shipment. Ivory stockpiles had been added to the model as a result of the second workshop (see Agenda Item 9). While stockpile data was still very incomplete, it was potentially a very important source of ivory coming through the supply chain.

Anil Gore commented that, while he had initially been sceptical about the workshop, he felt that the emergent story was important and worthwhile. The outputs were perhaps not crisp or ready to apply, but he found the information very useful and ample opportunities for analysis.

9 Outcome of the workshop ‘Elephants and the trade in elephant specimens: a review of existing analytical and reporting systems and recommendations for a way forward’TAG10 Doc. 9

The AfESG representative introduced document TAG Doc. 9 and gave an overview of the main objectives and results of the workshop. Outputs included the identification of the minimum data needs for conducting a MIKE analysis through PIKE, suggestions for validating PIKE, a revised draft analytical framework for MIKE, a list of operational and analytical challenges, opportunities and exiting or possible synergies, and models for the global legal and illegal ivory trade.

Operational challenges included the need for repeated surveys of elephants in order to derive population trends, although it had been suggested that modelling approaches could be taken to infer such trends. The workshop had noted that the objectives of MIKE and ETIS can be separated into two sets of objectives: CITES policy objectives (objectives 1 and 2) and range State elephant management objectives (objectives 3 and 4), and data needs for each set were discussed. The workshop had agreed that, provided that it is a reliable indicator of relative poaching levels, PIKE and population trend data would suffice to meet the CITES policy objectives. However, and while recognizing that PIKE currently provided the best available evidence for trends in levels of illegal killing of elephants, it would be important to validate its reliability. Another recommendation of the workshop was the need to consider the far-reaching linkages and ramifications for the minimum critical data needs of IUCN/SSC, MIKE and ETIS contribution to CITES policy objectives.

In the questions and comments section, Raman Sukumar asked about tusklessness of Asian elephants and PIKE, proposing that changes in the proportion of tuskers might indicate levels of illegal killing. Simon Hedges explained that basic abundance estimates without data on the age and sex structures of Asian elephant populations would not help to understand the demographics. The new genetic-based population modelling provides some of this information on sex structures, and dung size can give data on age.

There was a discussion on potential disparities between trends in elephant numbers at MIKE sites and trends across the entire elephant range. Mike Norton-Griffiths suggested that trends could be modelled in terms of probability distributions. Bob Burn explained that this could be accomplished using Bayesian modelling methods, which can combine population survey data with expert knowledge. Anil Gore said that the available data are fragmented, but as it was unlikely that much more could be obtained in the near future, modelling approaches should be explored. He urged TAG to take a position on the matter. Colin Craig noted that using expert opinions in modelling could generate questions about bias. The TAG agreed that full transparency would be essential if expert opinion were to be incorporated into models.

Simon Hedges noted that range States still had their elephant management needs, which would not necessarily be addressed by modelling. Aster Lee pointed out that MIKE was a programme about monitoring the illegal killing of elephants, and that there were limits as to what it could accomplish given resource constraints. Anil Gore agreed that management of expectations was crucial, and wondered whether there could be an objective way of judging which expectations would be reasonable.

The TAG agreed that an assessment of the various methodologies for ivory aging and sourcing was in order to address one of the important pieces of data missing to understand the illegal ivory supply chain. It was felt important to get standardization of these approaches as well as obligations of countries to provide samples from seized ivory. The TAG also agreed that ivory stockpiles were an important component of the trade chain that required more research, as well as better estimations of natural elephant mortality.

Colin Craig noted that carcass ratios are used by many range states as indicators of trends in elephant mortality, but that it was not known whether they could be important for CITES policy objectives. He suggested that a retrospective analysis could be conducted on the relationship between PIKE and carcass ratios. Bob Burn said he would undertake a research project to establish whether carcass ratio data would be useful to meet CITES policy objectives.

ACTION: Bob Burn to research on the relationship between PIKE and carcass ratios, and whether the latter could be important indicators for CITES policy objectives.

The ETIS Director thought that a statement from the TAG about next steps would be helpful, pointing out that the workshop could lead to analytical synergy and/or reporting synergy. He preferred moving towards a more holistic conceptual model of ivory flows to provide integrated and coherent information to CITES decision makers and elephant range State managers. Others supported this view.

The ETIS Director and the AfESG representative were asked to draft language on the synergies between MIKE, ETIS and IUCN, and the outcomes of the workshop for the TAG to consider.

Later in the meeting, the statement indicated under item 7 was presented as the draft language requested by the TAG.

10 MIKE analysis for the 61st meeting of the Standing Committee (SC61)TAG10 Doc. 10

The Data analyst introduced document TAG10 Doc.10 and its Annex 1. The MIKE analysis would be presented to the Standing Committee at its 61st meeting (SC61, August 2011) with highlights integrated in a joint report on elephants and ivory trade by ETIS, IUCN, UNEP-WCMC and MIKE (see agenda item 11), and a full analysis submitted as an information document. Referring to Annex 2 of document TAG10 Doc. 10, he mentioned that Ken Burnham had developed a method to estimate absolute numbers of elephants killed at MIKE sites, which at the time was only a proof of concept. He also emphasized the necessity to validate PIKE, as discussed under the previous agenda item.

While PIKE was showing significant results, the following issues needed to be considered and resolved in the view of the Data analyst:

- Uncertain reliability of within-site sample
- Limited data verification and quality control
- Carcass detection probability may vary by cause of death, and other factors
- Are deaths of 'unknown' cause more likely to be natural deaths?
- PIKE can be affected by changes in natural mortality and the history of illegal killing
- PIKE is an aggregate measure, and there is a risk of Simpson's fallacy (i.e. that correlations at aggregate levels may not hold at individual units).
- Data imbalances could affect trends
- Insensitive to tusklessness in Asian elephants

In ensuing discussions and comments, Simon Hedges asked about the spatial bias of patrol data impacting the carcass detection probability. Raman Sukumar felt that the analysis could not say anything about Asia as there were too little data, and recommended to get down to more specifics on the rates of natural mortality. In response to a question from Aster Lee, it was clarified that the household consumption of other countries than China had been tested as a covariate, but that only China had shown statistical relevance. The TAG agreed that the section in the Annex with preliminary research on the impacts of CITES decisions on PIKE should be removed as it was too inconclusive.

Bon Burn congratulated Ken Burnham and the Data analyst for the analysis and noted advances, in particular on the time-dependent covariates, the site-level poverty covariate, and research on absolute elephant mortality. He noted that some of the comments he had on the analysis had been noted in the presentation by the Data Analyst. He emphasized that good LEM data remained important to back up PIKE; in reference to the covariate modelling, the hierarchical structure in the data needed to be taken into account because not all observations were independent from each other; and finally, going back to the need for more refined data, such information could be collected from a small number of sites to study the real issues and get more sophisticated analyses.

Simon Hedges did not agree to look at mortality in the demographic sector targeted for ivory only, as PIKE was not just about killing for ivory, but also for HEC and other reasons.

Regarding carcass detection probabilities, Simon Hedges noted that elephants which were killed illegally because of HEC had a very high detection probability, while elephants that were poached would have an intermediate to low detection probability, and natural mortality a very low probability. He suggested that TAG should recommend that that variation in carcass detection probability was a reality, and needed to be examined. The Data Analyst noted that the biases described by Simon Hedges would tend to bias PIKE towards overestimating levels of illegal killing, i.e. in a conservative direction. Ken Burnham said that where good effort data was available, the scale of these biases could be established. Simon Hedges noted that he has data which showed the difference in probabilities of detection.

Anil Gore congratulated the authors of the analysis. While liking the analyses of the covariates, all findings seemed to be intuitively expected – any counterintuitive results would have been worth highlighting. A good model should be used to fill the gaps in the data, perhaps by generating predictions, ground truth them and then use the model to help make up for gaps in the data.

Mike Norton-Griffiths flagged the recommendation from his evaluation to peer review MIKE analyses and have open access to the data that had been examined so that other researchers could run their own analyses. This had been supported by the TAG. The Data analyst informed that the MIKE analysis for CoP15 analysis would be published soon in a peer-reviewed journal along with all the data, and that the same would happen with the current analysis.

Simon Hedges pointed out that CITES policy objectives could be met in case PIKE was a useful and reliable measure of MIKE. However, if PIKE were not a good measure, immediate action to correct the approach taken so far would need to be undertaken. The TAG agreed that there was a need to refine the list of questions concerning the validity of PIKE, and to start addressing them. It established a working group composed of the MIKE CCU, Simon Hedges, Ken Burnham, Bob Burn and Raman Sukumar to deal with the issue.

ACTION: Working group to refine list of PIKE questions so they can be addressed. Group composed of MIKE CCU, Simon Hedges, Ken Burnham, Bob Burn and Raman Sukumar.

Bob Burn commented that if a few sites had adequate data, much of this could be undertaken as a desk exercise. Simon Hedges and Bob Burn also mentioned some ongoing research projects that could help answer the questions concerning PIKE's validity.

Annex 2: From PIKE to poaching totals

Ken Burnham introduced the discussion paper in annex 2 on a concept for coming to absolute number of poaching, using PIKE and demographic parameters.

Dan Stiles asked about the elephant recruitment rate, which Ken Burnham said not to have taken into account here. It was also clear that population dynamics, and all uncertainties and unknowns surrounding this, should be taken into account. Colin Craig noted that the estimate of natural mortality

varies regionally, with Southern Africa showing through carcass data ratios that the natural mortality was lower than 5%. The TAG generally supported the idea, and agreed for the CCU to undertake a literature study on natural mortality in various sites, and for Ken Burnham to further explore the approach taking into account the literature survey.

ACTION: CCU and Ken Burnham to pursue the estimation of absolute numbers of elephants killed using natural mortality and demographic parameters.

11 Joint reporting by ETIS, MIKE, IUCN and UNEP-WCMC for SC61TAG10 Doc. 11

The Coordinator introduced document TAG10 Doc.11 and introduced the outline for the joint report that ETIS, MIKE, IUCN and UNEP-WCMC had agreed to produce. Funding had been approved for that collaboration. Information on the status of the *African elephant action plan* and the African Elephant Fund would be integrated into the report.

Elephant range States could provide further inputs for SC61 once the report was posted. The TAG would be requested to review the MIKE analysis for SC61, and be given a very short period of time to comment, as the integrated report would need to be submitted on or before 15 June 2011. The ETIS Director commented that ETIS would not submit an updated analysis but simply reiterate the findings that it had already presented at CoP15.

Processes and operational issues

12 MIKE elephant survey standardsTAG10 Doc. 12

Prior to the discussion of this agenda item, Yaw Boafo presented the results of an elephant survey of the Taï National Park in Cote d'Ivoire. The survey, which was conducted in partnership with WWF and OIPR, had the objectives of providing updated statistics on the density, abundance and spatial distribution of the elephants in Taï NP, identifying threats, and building the capacity of the Taï staff. Twelve of the ecological monitoring team, 7 park rangers and 16 locals in the fringe communities were trained in the standards for forest elephant surveys¹. Eighty systematically distributed transects were surveyed by 5 teams during 3 missions between February and April 2010. Less than 20 transects had dung piles. From the dung survey, the dung pile survival time was 57.8278 ± 4.0519 (SE) days. The early dry season dung decay rate was similar to the Ziama forest in Guinea. The area of Taï with elephant signs was 1,495.21 square km. Elephant density was 0.1262 ± 0.0904 . There were two concentrations of elephants. The total elephant population estimation was 189 (CI 54 to 324). Issues raised for the attention of the TAG included the difficulties associated with the need to monitor dung decay for every dung count; revisiting of a research proposal on modelling existing dung decay data; and trend measurements of small forest elephant populations (less than 200).

In the comments section, Simon Hedges suggested capture-recapture to be a better method for Taï. Yaw Boafo agreed, but pointed out the difficulty of taking samples out of range States for DNA analysis due to CBD restrictions, as well as the difficulty of finding labs to analyse the sample.

Aerial and forest elephant survey standards

The coordinator then asked Mike Norton Griffiths to introduce TAG 10 Doc. 12. Dr. Norton-Griffiths presented a number of concerns regarding the current MIKE standards for aerial elephant surveys. He presented the information on the Serengeti migratory wildebeest population, historically starting from total counts through to sample counts that were using analogue and digital cameras, and showed how both changes in survey effort and in the use of assistive technologies correlated with population estimates. He presented a strategic framework for survey designs: objectives; design; data capture technology; data validation; data analysis, presentation and communication. He outlined the components for each section and focused on the section on data validation which had the following components: aircrew performance (height, ground speed, pilot and observers); bias control (fatigue, photo count corrections, pilot observations, interactions between counting rate, strip width and ground speed, time of day, upsun/downsun); data consistency; data capture technology (high, medium, low); and differences in data collected between aircraft.

On a question regarding the use of radar altimeter, which are required by the MIKE standards but are expensive and prone to breaking down, it was suggested that laser rangefinders, which are far cheaper, should be tested.

Colin Craig questioned the apparent complexity of the presented framework, noting that the MIKE standards were trying to make things simpler.

Mike Norton-Griffiths noted that the methods were progressing, and that MIKE should not be left behind. Colin Craig appreciated the good suggestions and agreed to the need to revise the current MIKE aerial survey standards but remained concerned about setting high survey standards that elephant range States could not meet since some were not able to comply with the current standards.

The TAG requested that the CCU organize a meeting on aerial survey standards, which should be attended by Mike Norton-Griffiths, Howard Frederick, Colin Craig and Diane Skinner, with some suggesting that the workshop should result in standards that range from minimum to best practices.

At the previous TAG meeting, Colin Craig had raised the possibility that the section on the optimal allocation of survey effort in the survey standards would have to be revised. The issue relates to the recommendation in the standards that measured variances should be used to calculate sampling intensity of different strata, or whether it is preferable to use densities. Upon further reflection, Colin Craig had come to the conclusion that it was indeed preferable to use measured variances, as currently reflected in the standards. Ken Burnham agreed that using measured variances was preferable, and agreed to look over the relevant section in the aerial standards to check whether any revision was still necessary.

ACTION: Ken Burnham to review Appendix I of aerial survey standards and provide feedback. CCU to organize meeting on possible revision of aerial survey standards.

The Data analyst noted that there was a pressing need to examine the methods to conduct elephant surveys in large forest size (>5,000 sq km), as none of the existing methods are suitable for such sites. He suggested that a variation of the rainfall method merited particular attention. Simon Hedges supported this view, noting that the current standards were still fine for smaller sites (<5,000 sq km).

Simon Hedges provided the history of the development of the dung survey standards, which had now been used in a number of sites. It was clear that they needed to be updated with the methods for large blocks of forest. Those new methods were, by their nature, complex.

The TAG recommended that the rainfall method be tested, and that WCS's tests of the occupancy method should continue. Upon completion of these tests, there should be a revision and update of the relevant MIKE survey standards, which should take into account the data validation concerns above. The TAG created a working group composed of Simon Hedges, Martha Bechem, Yaw Boafo, Aster Li, Moses Kofi San and the Data analyst to work by email on the details of the rainfall method.

Action: Working group on rainfall method to review options for use of rainfall method in large forested sites. Group composed of Simon Hedges, Martha Bechem, Moses Kofi Sam, Yaw Boafo, Aster Lee Zhang, Julian Blanc (coordinator).

13 Validation of the MIKE site sampleTAG10 Doc. 13

Ken Burnham introduced document TAG10 Doc.13, recognizing that a coherent approach needed to be prepared to respond to any critique about the composition of the MIKE site sample. It was recognized that the MIKE site sample had been selected based on a subset of all sites provided by the African Elephant Specialist Group, and it was therefore not a random sample. The sample had been subsequently further modified to suit the wishes of range States. Thus questions had arisen about the representativeness of the site sample. In some cases, sites did not seem to represent themselves because monitoring was very limited or non-existent. Comparing the validity and representativeness of MIKE sites with similar issues surrounding observational bird studies in the USA, Ken Burnham concluded that the MIKE analysis and good information from some sites gave consistency and confidence to MIKE's representativeness. Carcass detection efficiency had been computed for all sites, and this could be presented to the regional MIKE Subregional Steering Committees for comments.

In response to ensuing comments, Ken Burnham agreed to consider elephant densities in the validation, and that an effort should be made to identify sites that were not representative of themselves as they

were highly problematic. He would circulate the final version of his document for further comments from the TAG and conclusion of this matter.

ACTION: Ken Burnham to circulate final version of document on site validation.

14 Software tools for data capture and managementTAG10 Doc. 14

The Data analyst presented document TAG10 Doc.14 related to MIST and software tools at MIKE sites. A consortium had been created that included WWF, ZSL, WCS and others to develop new alternative software to MIST (code-named SMART) for ranger-based data collection and analysis. At the same time, an upgraded version of MIST, "MIST3" would become available by the end of 2011. The MIKE CCU was collaborating with and supporting both initiatives, recognizing that the elephant range States would eventually choose for the data collection system that suited them best. The MIKE SSOs would contribute to the testing of both SMART and MIST3, which would be important to decide on the best course of action for range States and MIKE. SSOs would also be invited to be part of the SMART user council, which should organize and discuss field tests.

15 Operation of MIKE in African and Asian subregions TAG10 Doc. 15

Central Africa

A presentation was given by the Deputy SSO for Central Africa on MIKE activities in the subregion. Activities since TAG9 included data compilation, a MIST evaluation workshop in January 2011 (where more than 70% of the subregion's MIKE sites were represented). There was a better understanding of the problems encountered and experts from WCS were present. MIST in the sub-region had a smooth take-off, but its implementation required constant mentoring. There was also a problem of patrols not being entered into the database because of an absence of GPS waypoints, which are mandatory in MIST. National officers in general were not actively participating in the MIST implementation process, with the exceptions of Cameroon and Chad.

MIST training workshops had been undertaken in Garoua Wildlife College (12 trainees), TRIDOM Congo (16), Nouabalé-Ndoki (7), Waza (2), Salonga (28). Salonga is a very large protected area and is divided into 6 sectors, each of which is run like a separate national park. Travel between sectors is a major challenge. Bringing trainees from all sectors together was a considerable success. All the active sites in Central Africa had received MIST training, except Sangha and Bangassou. The DSSO presented a table outlining the schedule of MIST implementation in each site and the commented on the quality of MIST implementation and the quality of site data. There remain two 'dormant' sites in the subregion, namely Kahuzi-Biega and Monte Alén. Kahuzi Biega had presented some patrol data, but no carcasses. They also submitted evidence of continued elephant presence in the form of pictures from camera traps, but the number of elephants was estimated at less than 10.

A major strength in Central Africa was the high level of interest in MIST demonstrated by range States, but there remained constraints such as the lack of personnel, high staff turnover and insufficient numbers of GPS units.

It had not been possible to conduct any population surveys in the subregion. There had been confusion over the choice of site for testing occupancy method. Furthermore, it was not possible to find willing partners to test the method, even though they had been sought. In addition, the reliance of the occupancy method on DNA analysis presented the difficulty of the lack of suitable lab facilities to process the DNA.

The SSU was able to test the BGT31 GPS unit under forest canopy. Each site was given one BGT31 to test during patrols alongside the conventional GPS models. Feedback is on the BGT31's receptivity under canopy was positive.

Mike Norton Griffiths referred to the perceived complexities of implementing an information system such as MIST, which had been cited by the Data Analyst at the SARF workshop (see agenda item 9), and yet it appeared to have been successfully implemented in the Central African sub-region. The Data Analyst pointed to the difference between imparting training and full implementation, and alluded to the outstanding challenges mentioned by the Deputy SSO (namely the unfulfilled need for mentoring; the lack of staff and staff turnover; and the insufficient number of GPS units available). The Deputy SSO also referred to sites in eastern DRC, where MIST had been successfully implemented, but where there was

permanent presence of a mentor from an international NGO to assist in the process. The SSO for Central Africa stated that in DRC the experience has been positive with MIST, and that the government had decided that the same tool would be used throughout the country's protected areas, and not just in MIKE sites.

The Deputy SSO for West Africa asked about the concerns regarding the combined occupancy and DNA survey methods, wondering whether the nature of the challenges was operational or analytical. The DSSO for Central Africa clarified that there were no suitable labs in Central Africa, and that exporting the samples was extremely difficult and bureaucratic. There was a discussion about some countries which actually forbid the export of dung samples. Simon Hedges suggested that this would be an issue in which CITES could assist by urging countries to facilitate the export of samples and reduce the bureaucratic load. The Central Africa SSO also expressed his concern that, irrespective of the availability of labs, the reliability and cost-effectiveness of the mixed occupancy and DNA capture-recapture method had yet to be established. Simon Hedges noted that the protocol was being tested in an area of 25,000 km² in Thailand. He added that the method showed promise, and that its reliability would be evaluated in the near future..

Southern Africa

The SSO for Southern Africa gave a presentation on progress made in training field rangers in law enforcement monitoring techniques; training in data analysis and reporting at the sub-regional level; and elephant mortality data collection for the SC61 report.

The status of the MIKE elephant carcass form/reports was as follows. Namibia and South Africa had been consistently filling in MIKE carcass forms, and had integrated the forms into their national monitoring systems. Botswana had been consistently filling in carcass forms, but the Botswana anti-poaching unit was assisted in data collection by the Botswana Defence Forces (BDF). This posed some challenges in terms of data flow and training needs, as the BDF units were rotated frequently. Mozambique, Zimbabwe and Zambia had not been consistently filling in MIKE carcass forms and, prior to the deployment of MIST, the MIKE data requirements had not been integrated into their national systems.

For these three countries, MIST datasheets have been developed and the MIST database had been designed to capture data from GPS and from the newly designed data collection sheets. A total of five training workshops had been held to train rangers in GPS and filling in the data collection sheets, at Chobe (Botswana), South Luangwa (two workshops), Chewore and Nyaminyami. The availability of GPS continued to be a problem.

Training in aerial survey analysis and reporting had also been conducted, comprising a series of workshops on survey techniques, design, and analysis. A transboundary survey had been conducted in Chewore (Zimbabwe) and Cabora Bassa (Zimbabwe). The Chewore report had been produced, and it went beyond the MIKE standards by including metadata on validation. The Mozambique team, on the other hand, had not yet finalized its report..

Planned activities included additional training and audits to evaluate effectiveness of training. Basic MIST database management would be followed by an advanced training for system administrators. MIST would be deployed at MIKE sites in Mozambique and the SSU would provide targeted support to Namibia and South Africa.

The challenges identified included the fact that expectations were being raised through training, but the reality remained that the use of GPS in all patrols was not feasible at the given level of resourcing. There was a need to devise a system to check data quality, perhaps including systems for peer review among range States, although this might be prohibitive in terms of cost. TDM asked why that would be prohibitive? TC clarified that this would mean rangers doing the review of other data from other sites, so this would be expensive.

Bob Burn asked whether the countries experiencing high levels of poaching are the same countries where data quality control is poor. The SSO agreed that the allocation of resources in some countries was insufficient, and that could indeed have consequences for both poaching levels and data quality. He also noted that in some countries, high levels of staff turnover also has negative implications for data quality, which contributes to data inconsistency.

West Africa

Training and capacity building has been undertaken, and all MIKE National and Site Officers had received initial training in MIST, with a few exceptions (SO for Marahoué, Comoé and Niokolo-Koba and NO for Senegal and Guinea. In Ghana, where MIST was fully operational, a MIST implementation assessment had been conducted. A subregional MIST training course and a workshop to adapt the new MIKE LEM forms had been held in Mali.

Progress on surveys included preparations for the WAP complex involving Benin, Burkina Faso and Niger, but civil strife had forced the postponement of this activity until 2012. The Sapo survey results had been presented to the Liberian authorities, and the survey report would be put in the public domain. The draft survey report for Taï had been circulated for comments. An institutional collaboration had been developed with WCS for a survey of Yankari.

A total of 28 computers (including printers and UPS) and 43 GPS units had been distributed to MIKE sites to date, with the exception of Senegal and Guinea. Some range States had complained about the slowness of the Inveneo computers provided to them.

Challenges included the insufficient supervision of Site Officers on the part of National Officers, insufficient law enforcement effort at most sites (and concomitant paucity of data from the subregions), and a perceived lack of political will to implement MIST. As a question to the TAG, the SSO pointed to the difficulties rangers experience in establishing the 'cause of death' of elephant carcasses.

In the questions and comments section, the SSO for Central Africa pointed to the importance of convincing high-level managers of the usefulness of MIST as a monitoring tool, which leads to political buy-in. This was corroborated by the SSO for Southern Africa, who explained that, in his subregion, consultations had begun at national level to define how monitoring systems should be set up, and only once the green light had been obtained did MIST implementation begin at the site level. Moses Kofi Sam highlighted the importance of the 'champion concept'. If there was someone in every country who wants to see MIST succeed, then that will result in much better implementation. He cited the example of Ghana, where MIST was being effectively used not just to collect MIKE data, but also to meet the country's own management needs. When the realization comes that MIST is not just about MIKE, then the commitment improves, but someone is still needed to champion it. However, in countries in which there is no tradition of collecting data in this manner at all, then the new concept would take time to root. Others agreed on the importance of the champion concept, noting the need also for site-level champions outside of the MIKE structure or control. The difficulties of ensuring implementation from MIKE was noted, as even steering committees have little influence on the site officers and national officers. MKS suggested that this commitment should be part of the proposed range State commitment protocol, and noted that the issue of staff turnover could only be addressed by the range States. Including the necessary commitments in the proposed range State MOU would be a good way of addressing the problem. Aster Lee Zhang agreed with the problems caused by lack of direct line management links between the site officer and the site officers, citing the example of China, where the national officer is central, while the site officer is decentralized, so there is no direct line management there.

Southeast Asia

Simon Hedges presented on behalf of Tony Lynam. A new collaboration between WCS and MIKE to oversee the implementation of MIKE in Southeast Asia from 2011 to 2013 was being developed. The project aimed at re-establishing the SSU, implementing MIST, developing training materials for use in all MIKE sites and assisting with population surveys. Matching funds had been raised by WCS from the USFWS and the Darwin Initiative. Some activities had already taken place, particularly on the LEM front, including the facilitation of getting Rhino Protection Unit staff in Indonesia to join LEM training; assistance to the Southern Africa SSU to develop an LEM training curriculum, and training on the use of MIST data patrol forms. An outline for a MIKE basic ranger curriculum had been produced. The curriculum will be tested in a number of sites, also linking to Africa. There have been training courses in LEM at four sites and MIST had been implemented at all those sites.

The flow of PIKE data was still a cause of concern, is and was important to establish whether training in LEM would result in improved data flow from the sites.

Survey work is underway using MIKE standards in priority sites [get from presentation]. There is a project to establish a fecal DNA lab. A number of sites (MIKE and otherwise) are using the MIKE standards.

Survey work was underway using MIKE standards in Way Kambas, Bukit Barisan and Mondulkiri using the fecal DNA mark-recapture method. Results of a fecal DNA survey in Xishuangbanna (China), conducted by Conservation International in collaboration with the government of China. The testing of the occupancy method was underway in Thailand. There was also an ongoing project to establish a fecal DNA lab in Indonesia..

In the comments and questions section, the West Africa DSSO asked about progress in finding suitable labs to analyse DNA from dung. Simon Hedges responded that the problem is that there were not many laboratories that conduct this kind of analysis, so there is a backlog of data to be analysed. He also noted that a number of countries were imposing restrictions on the export of DNA samples (because of the Nagoya Protocol on Access and Benefit Sharing, and there was a need for more labs to be set up in-country.

Raman Sukumar asked about how useful PIKE would be in Southeast Asia, considering detection probability. Simon Hedges responded that work was ongoing to explore the use of intelligence rather than ground patrols.

Research issues

16 Collaboration with the IUCN/SSC AfESG and AsESG.....TAG10 Doc. 16

The Coordinator introduced document TAG10 Doc.16. The AfESG representative had no further information to share. Simon Hedges, speaking on behalf of the AsESG, confirmed that the Group was ready to help and assist, particularly to help with reporting under Decision 14.78.

17 Study of trade in elephant meat in Central Africa.....TAG10 Doc. 17

Dan Stiles introduced document TAG10 Doc. 17. He argued that there were two justifications for continued elephant meat data collection: a short-term need to establish baselines and a long-term monitoring system which would be collecting a few high-priority variables over a long period of time. The present elephant meat study attempted to cover the entire commodity chain, from hunters to vendors and on to consumers, in addition to middlemen traders. For modelling purposes, all the possible drivers along the commodity chain in the elephant meat and ivory trade were presented. The discussion paper presented quantitative and qualitative variables for each actor in the commodity chain. Variables were: frequency and numbers of elephant killed, meat and tusk quantities, prices and price fluctuations along the chain needed. The different types of data collection methods were highlighted with merits and demerits for each (direct questioning; direct observations; indirect observations; forensics; modelling). For time sake and due to practical limitations, the current study had combined questionnaires with direct questioning, and respondent-driven sampling techniques had been used instead of random sampling to find volunteer informants and identify others in chain-referral. Eventually it should be possible to identify the actors and once they were known, random sampling techniques could be applied for the informants. Data had been entered and stored in Excel.

Dan Stiles proposed that for a future elephant meat- and ivory trade monitoring and evaluation system, a dual site approach could be envisaged, which would require minimal changes to the current set-up of the MIKE data collection system. (a) MIKE sites would collect data as usual, with additional variables on meat and ivory trade; and (b) community participation would be sought to collect data off-site on the movement and sales of meat and ivory once they had left the MIKE sites.

The presentation was followed by extensive discussions on the provisional results, the methodology and the best way forward.

Some TAG members questioned the high number of variables that had been identified and analysed, and asked if the information on vendors and consumers could not be used as a proxy for all the other data points. Dan Stiles responded that as of yet, not enough information was available to decide on such an approach.

TAG members commented that for this kind of research, questionnaire surveys were error prone and that participatory monitoring would be better. The community participation approach allowed to collect considerable amounts of information, but was labour-intensive and might require a full-time researcher. Participatory monitoring might have legal consequences as it concerned prohibited activities.

In response to questions regarding specialised elephant meat versus ivory hunters, Dan Stiles commented that only three hunters had meat as their primary motive for killing elephants out of a total of 54 interviewed hunters, and that the primary motivation for hunting elephant was ivory.

The current MIKE patrol forms allowed for recording details on the taking of meat from elephant carcasses but in practice, this was seldom recorded.

Ken Burnham recommended that if an elephant meat trade monitoring system could be cheaply established on the basis of the existing MIKE system, then it would be worthwhile to set it up. But if it were expensive (e.g. requiring dedicated staff members for participatory data collection at each site), it did not seem justified. Bob Burn suggested that for this kind of data, participatory monitoring is more useful than questionnaire surveys. Anil Gore recommended that, rather to deepen the current study, it would be more sensible to broaden the surveys to other sites so that the scale and general outlines of the phenomenon could be better understood. Aster Lee noted that attitudinal and consumer behaviour surveys were also important to consider.

The AfESG clarified that the results of the studies has been shared with relevant Central African countries, and that TAG members would be given the study reports for review before being put in the public domain. The Coordinator recalled that the results of the study would be relevant to a joint CBD/CITES bushmeat meeting, to be held in June 2011 in Gigiri, Kenya.

Conclusion of the meeting

18 Any Other Business..... **No document**

- The following Subregional Steering Committee meetings were announced:
 - West Africa: a back-to-back MIKE/CMS meeting from 20 to 24 June 2011 in Niamey, Niger.
 - 20-21 June: second meeting of the signatories of the CMS Memorandum of Understanding concerning Conservation Measures for the West African Populations of the African Elephant (*Loxodonta africana*);
 - 22 June: joint CMS/MIKE meeting;
 - 23-24 June: MIKE Subregional Steering Committee meeting for West Afrca.
 - Central Africa: 3-5 August 2011 in Kinshasa, DRC
 - East Africa: Kenya; dates to be announced.
- The Coordinator brought up a communication from Iain Douglas-Hamilton concerning the operation of MIKE as an early warning system, and asked that the TAG working group on early warning take this into consideration.
- Anil Gore announced his retirement from the MIKE and ETIS TAG. The Coordinator thanked him for his important inputs and contributions.
- Simon Hedges requested for the minutes of TAG10 to be circulated earlier than before, as this would help with tracking agreed actions and would enable working groups to operate.

19 Determination of the time and venue of the next TAG meeting **No document**

The 62nd meeting of the Standing Committee (SC62) will be in July 2012. Therefore, the TAG meeting should be in the first quarter of 2012 early in the second quarter. The meeting would be held in Nairobi.

Closing remarks

As this had been the last TAG meeting that he would chair, the Coordinator thanked the TAG members for their constructive participation and cooperation, and wished them well in their future deliberations.
