UNITED REPUBLIC OF TANZANIA

IMPLICATIONS OF THE ADOPTION OF THE PROPOSAL

1. If the proposal of the United Republic of Tanzania were adopted, all ivory of Tanzanian origin, no matter where it is held, would effectively be from a species in CITES Appendix II. However, the adoption of the proposed annotation would mean that no trade in ivory would be possible under the provisions relating to species in Appendix II except for hunting trophies and the specified stock of raw ivory owned by the Government of the United Republic of Tanzania and derived from natural mortality and from problem animal control. All other ivory of Tanzanian origin would be subject to the provisions for trade relating to species in Appendix I.

2. It is indicated in Table 3 of the supporting statement that the ivory stock in question is the government stock that has accumulated between 1989 and 25 September 2009 in the strongrooms in Dar es Salaam, Arusha and Ngorongoro Conservation Area. However this precision is not indicated in the proposed amendment to the Appendices, leaving some ambiguity about which pieces of ivory are covered by the proposal to allow a "one-off sale".

3. Acceptance of the proposed annotation would mean that the international trade would be permitted in live elephants of Tanzanian origin to 'appropriate and acceptable destinations'. However, the Panel has not considered this aspect of the proposal, which is outside its terms of reference.

STATUS AND MANAGEMENT OF TANZANIA'S ELEPHANT POPULATION

Viability and sustainability of the population, and potential risks

Viability

4. Tanzania's Protected Area (PA) network for wildlife covers 26% of the country's land surface with 15 National Parks (NP) (4%), Ngorongoro Conservation Area (1%), 28 Game Reserves (GR) (14%) and 33 Game Controlled Areas (GCA)and/or Wildlife Management Areas (WMA) (5%). Only since 2005 have a number of the latter been formally designated and gazetted as wildlife management areas. This PA network is subsumed within six ecosystems across the country, namely Tarangire-Manyara, Serengeti, Selous-Mikumi, Ruaha-Rungwa, Katavi-Rukwa and Moyowosi-Kigosi.

5. In 2006, Tanzania's elephant population across these six ecosystems was estimated at 139,915±12,338 (SE[1]) animals from census surveys covering 227,328 km2 conducted by the Tanzania Wildlife Research Institute (TAWIRI, 2007), using both total and sample counts. The estimate, however, was not significantly different from that of 111,475±18,728 (95%CL[2]) elephants counted in 2000-2003. This does not include an additional 2,873 elephants from areas not formally surveyed to provide a country-wide "best estimate" of 142,788 ±12,405 (SE) elephants at the time. The definite category estimate in the African Elephant Status Report (Blanc *et al.*, 2007) is 108,816 elephants with 27,937 probables, 29,350 possibles and 900 speculatives.

6. In 2009, a similar exercise covering 229,318 km2 across the same six ecosystems yielded a total population estimated at 105,439±6,080 (SE) elephants (TAWIRI 2010a). A 'best estimate' including an additional 3,583 elephants provided a country-wide estimate of 109,022 ±6,135 (SE) elephants. These results suggest a significant decline compared to the 2006 estimate of 142,788 elephants. This decline can be attributed largely to the downward trend recorded in the Selous-Mikumi ecosystem.

7. Demographic surveys of the five major elephant populations in Tarangire, Ruaha-Rungwa, Selous-Mikumi, Katavi-Rukwa and Ugalla River were completed during 2009 through sampling 1,817 individuals in sub-populations of these elephants (TEMP, 2010). The proportion of the population <5 years of age varied from

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[1] *SE: Standard Error*

[2] *CL: Confidence Limit*

41% in Tarangire NP to 25% in Ugalla River GR, with values above 30% (Tarangire, Ruaha-Rungwa and Selous GR) indicative of good to high growth rates. Indeed, at >6%, Tarangire has one of the highest growth rates ever recorded for an African elephant population (Foley and Faust 2010). Those populations with the proportion of their herds <5 years of age below 30% (Katavi NP and Ugalla GR), and indicative of low recruitment and growth rates, suggests one or more factors acting singly or in combination such as higher infant mortality and increased stress associated with human-elephant conflict and/or illegal activity, i.e. poaching.

8. Whilst the most recent estimates suggest that the Tanzanian elephant population is stable or possibly decreasing, it still remains large (>100,000) and demographically healthy. It is widespread across the country in diverse ecosystems, with a high proportion (>80%) in Protected Areas and can certainly be considered viable.

Sustainability

9. Apart from possible survey sampling errors and errors in data processing and analysis, e.g. the 2006 Kilombero GCA estimates, the 2009 elephant population estimates provided to the Panel for the Selous-Mikumi ecosystem (TAWIRI, 2010a) are equivocal. There has been a significant decline in elephant numbers between 2006 and 2009 from 74,900±10,197 (SE) to 43,552±2,784 (SE), a "loss" of 31,000 animals over three years. A major decline in Kilombero GCA accounts for >50% of these elephants but other losses have also occurred in areas not legally protected.

10. Possible explanations include human activities in these areas, for example a three-fold increase in large livestock numbers in Kilombero and increased cultivation generally, exacerbating human-elephant conflicts and subsequent disturbance of elephants. Settlement, at least to 2006, actually appeared to be decreasing (TAWIRI 2010b). Whereas elephants were widely distributed in Kilombero in 2006, their distribution was much more concentrated and limited to the centre of the GCA in 2009. Similarly there were fewer elephants evident in areas outside of the PAs in Selous-Mikumi in 2009 compared to 2006. Elephants are now largely absent from the north and east of the Selous Game Reserve, as well as south and east of the GR and the Selous-Niassa Corridor.

11. Whilst there is movement of elephants across the Ruvuma river between southern Tanzania and northern Mozambique (Mpanduji and Ngomello, 2007), numbers within the Selous-Niassa Corridor did not change significantly between 2006 (3,331±1,610 SE) and 2009 (4,577±1,126 SE). Elephant distribution, however, did change, with elephants concentrated in the north in 2006, and in the south in 2009.

12. The 2009 aerial survey and census in Niassa National Reserve, Mozambique, adjacent to the Tanzanian border on the Ruvuma river, indicated a significant increase in elephant numbers; 20,118±2,801 (95%CL), compared to 11,833±2,303 (95%CL) in 2006 (Craig 2006, 2009). This suggests a larger-scale movement than otherwise would normally occur from southern Tanzania, notably the Selous ecosystem, and in particular the Selous-Niassa Corridor. Whilst the possibility of such movement cannot be ruled out, it does not account for all the "loss" from Selous-Mikumi or for the fact that estimated numbers of elephants remained the same in the Selous-Niassa Corridor over the two surveys. Furthermore, further analysis of the Niassa survey results indicates that the recorded increases are in the central and southern survey blocks or strata of the Reserve and not adjacent to the Ruvuma river (V. Booth, pers. comm.).

13. Illegal activity, i.e. elephant poaching, cannot be substantiated by carcass ratio data (Douglas-Hamilton and Burrill, 1991), since these data were either not collected or not reported in both the 2006 and 2009 surveys. A ratio (actually a percentage) of 1.4%, derived from a carcass estimate of 634 elephants in Selous-Mikumi in 2009 (TAWIRI, 2010b), is unrealistically low given that natural mortality alone amongst elephant populations is probably ca.4%. However, PIKE values (the proportion of illegally killed elephants to all carcasses found by ground-based patrols) collected at the Selous-Mikumi MIKE site rose from 0.22 in 2003 through 0.18 in 2004, 0.42 in 2007, 0.59 in 2008 to 0.63 in 2009 (CoP15 Doc.44.2), suggesting that the illegal killing of elephants is not only important but has been increasing.

14. This suggestion is supported by carcass ratio data for Niassa NR. Although an overall ratio of 4.3% was obtained for the 42,000 km^2 reserve, highest ratios (11-18%) were found in the eastern survey blocks adjacent to the Ruvuma river and where human population density is high in the south-west of the reserve (Craig 2009). PIKE values currently available for the Niassa NR MIKE site, rise from 0 in 2004, 0.33 in 2006 to 0.88 in 2007. Clearly, cross-border illegal activity is prevalent and recently confirmed by DNA analysis of ivory seizures (Wasser et al., 2009).

15. In Tanzania, legal offtake of elephants is only through trophy hunting and problem animal control (see below). However illegal hunting (or poaching) can not only reduce the sustainability of these legal offtakes, it can potentially have a substantial negative impact on the population as a whole. Whilst not unequivocally substantiated, the Selous-Mikumi situation described above could affect long-term population sustainability.

16. The contribution of the wildlife sector to the Tanzanian economy is ca.10% of GDP (DPG, 2007), of which the tourism industry generates approximately USD 1.3 billion per annum (HAT, 2010). Annual income to TANAPA, NCAA and the Wildlife Division amounts to ca. USD 80 million in direct fee payments, although in the case of Wildlife Division, its revenue share is paid to the central treasury. As a result of retaining 100% of revenues generated, the two largely autonomous parastatals, TANAPA and NCAA, are generally financially self-sustaining and consequently, National Parks and equivalent areas such as Ngorongoro Conservation Area, totalling ca.57,387 km^2 or 38% of all PAs, are adequately resourced.

17. By contrast, the Panel was informed by the Wildlife Division, responsible for Game Reserves comprising ca. 109,417 km^2 (62% of all PAs), that it had received an average of USD 2,634,975 a year or 63% of its approved budget from central Treasury over the three financial years 2007-2009. This is equivalent to USD24 per km^2 which, when compared to the generally accepted norm of ca. USD200 per km^2 required to protect PAs across southern and eastern Africa (Cumming, 2004), is totally inadequate. For Selous Game Reserve, the equivalent figure is USD 19 per km^2 based on an average annual actual budget of USD 928,597. With such under funding, the Wildlife Division would clearly be unable to meet its conservation, management and protection needs and obligations.

18. This situation has been exacerbated through cessation in 2005 of the Revenue Retention Scheme operating in Selous Game Reserve whereby, by agreement between the Government of the United Republic of Tanzania and the German government aid agency, GTZ, a special project status was accorded to Selous GR (IUCN-UNESCO, 2007). This allowed for 50% of hunting tourism revenue and 100% of photographic tourism revenue to be retained for management of the area. Over the 10-year period 1994-2004, this retention scheme provided an operational and development budget totalling USD 15.8 million or an average USD 1,576,000 per annum. Even so, and whilst an extremely important contribution, this would have increased expenditure by only USD 13 to USD 32 per km^2, still far short of what is required. Furthermore, Retention Scheme funds were also allocated to development expenditure and not solely to recurrent annual expenditure for protection purposes.

19. However, an additional USD 51,578,256 was provided through the Tanzania Wildlife Protection Fund between 2005 and 2009, averaging USD 12,894,564 annually. Taken together with the Treasury allocations, this is equivalent to USD 142 per km^2 which is comparable to the ca. USD 200 per km^2 standard. With such resources, the Wildlife Division should have been in a strong position to undertake its enforcement and protection commitments and to have contained the threats faced, especially in the Selous-Mikumi system.

Potential risks

20. When compared to the distribution of elephants in 2006, three years later it is evident that risks to the mobility of these populations are increasing, as well as to less well protected range outside of legally protected areas. Expansion of human settlement around PAs, accompanied by reportedly increasing human-elephant conflict (HEC), are probably the most important factors affecting and limiting mobility and elephant range. HEC is being intensively investigated in at least six sites across the country (western Serengeti, west Kilimanjaro, Tarangire, Ruaha and Mikumi NPs, and eastern Selous) where relatively simple community-based conflict mitigation measures have been introduced. Government agencies (TANAPA and TAWIRI) together with a number of conservation NGOs (AWF, FZS, WCS and WWF) are involved in these initiatives.

21. Although crop raiding incidents in these areas number ca.1000 annually, most crop losses are sustainable economically but not necessarily from the perspective of household livelihoods, hence the seriousness of HEC and the associated demands for its resolution by affected communities. At these sites, damage has also been inflicted on food storage facilities, water sources and homes with at least eight persons killed since 2006. During the same period, some 60 elephants have been destroyed as problem animals, for which there is provision in the Wildlife Conservation Act.

22. Minimizing risk to elephants and other wildlife, as well as people and property, is being addressed through attempts to improve spatial planning involving the identification, maintenance and restoration of wildlife corridors (Jones et al., 2009). Corridors provide space for dispersal of elephants (and other wildlife) and

support their movement between PAs, the provision of refugia during critical times (traditionally resource shortages; nowadays more from human-associated impacts) and the maintenance of genetic diversity. The identification of 31 corridors still remaining in the United Republic of Tanzania, their status and threats faced, indicate that most are in critical condition. At current rates of habitat change and land conversion, these corridors have less than five years remaining before they disappear. Corridors are being destroyed by rapid agricultural expansion, unplanned land use, unsustainable resource extraction, including bushmeat, and road construction. Increasing isolation of PAs is likely to have serious implications for economic development and the sustainability of the tourism industry (Jones et al., 2009).

23. The maintenance of corridors is also important for transboundary elephant populations. Such populations occur in both the north and south of the country. In both areas, land use is primarily wildlife-based, but not without existing and potential threats. These are accentuated in the south in the Selous-Niassa ecosystem. This system, extending across southern Tanzania and northern Mozambique, is one of the largest trans-boundary ecosystems in Africa covering ca. 154,000 km^2 of diverse miombo woodland and supporting a rich mammalian and avian fauna (Jones et al., 2009). The Selous-Niassa Corridor provides an important landscape linkage between the Selous PAs and that of the Niassa NR and adjacent hunting zones (*coutadas*).

Management Plan

24. The first policy and management plan for elephants in the United Republic of Tanzania was produced in 1995, following the collapse of populations during the poaching crisis of the mid 1980s. The 1998 Wildlife Policy of Tanzania (revised version of 2007 not seen), in outlining the Government's intentions regarding the conservation of endangered species, provided guidelines for the future management of elephants through the development, review and updating of specific management plans.

25. The 2001 elephant management plan (Management Plan for the African Elephant *Loxodonta africana* in Tanzania 2001) considers management of elephants in PAs, population numbers and trends, community involvement in elephant conservation, utilization, law enforcement and control of ivory, international obligations, and monitoring and research. Five strategies are outlined to meet the objectives of protection, sustainable utilization, minimising HEC, enabling communities to benefit from elephants, and enhancement of management through research and monitoring.

26. Specifically, utilization of elephants in National Parks and NCA is confined solely to non-consumptive use, i.e. tourist game viewing; in Game Reserves utilization is expanded to include sport hunting of elephant trophies, regulated both by numbers killed and trophy size (tusk weight); in GCAs and Open Areas (i.e. non-protected areas) elephants are partially protected under community conservation pilot programmes. Legalisation of these programmes was dependent on the gazetting of WMAs and on accompanying regulations which were adopted only after 2005.

27. In wishing to avoid a return to elephant numbers of the 1970s, seen as incompatible with a growing and expanding human population and escalating HEC, the previous policy set an upper limit of 120,000 elephants for the country. The 2001 management plan proposes a revised limit of 100,600 elephants for the same reasons. Preferred densities are set at 0.1-1.1 elephants per km^2, with prescribed densities recommended for each major ecosystem.

28. Currently the Tanzania Elephant Management Plan project (TEMP) is in the process of developing a new and revised management plan. This plan is being developed in a participatory manner over the period April 2009 to June 2010. Country-wide stakeholder consultations have been taking place and population status assessments are being undertaken with initial results to hand (TEMP, 2010). The plan will build on the country-wide surveys completed in 2009, the population status assessments and stakeholder consultations, culminating in a national workshop in June 2010.

Communities adjacent to elephant range

29. Based on policy and experience gained in community conservation in Tanzania (URT 1998, Zacharia and Kaihula 2001, MNRT 2003), Community Based Conservation is given prominence in the revised Wildlife Policy and the Wildlife Conservation Act of 2009. The Wildlife Management Areas Regulations (2005) provide a legal mechanism for district councils to receive 25% of internationally marketed sport hunting revenue and 100% of resident hunting revenue to support community development projects and district level conservation activities.

30. At least nine WMAs were gazetted after 2005 and the Panel was provided with financial data pertaining to the hunting revenues shared in hunting blocks within these WMAs. In 2006/07, 2007/08 and 2008/09, USD 61,851, USD 149,834 and USD 138,194 respectively, were received, totalling USD 349,879. Although no figures for resident hunting revenue were provided, this is likely to have been insignificant given that: (i) resident hunting does not take place in hunting concessions and occurs mostly in open areas; and (ii) opportunities for such hunting are becoming increasingly difficult (Tanzania Hunters Association, pers. comm.).

31. The impact of these earnings is difficult to assess in the absence of supporting information and data such as the size of each WMA and the hunting blocks therein, the number of village recipients (i.e. households), the efficacy of disbursements by the respective councils, and the allocation of revenue by councils and/or communities. Equally important is the source of revenue, i.e. breakdown of the hunting quota and offtake. These are important considerations given the increasing levels of human-elephant interaction and associated conflict. If greater community tolerance towards wildlife and elephants in particular, is to be associated with the benefits arising from wildlife utilization programmes such as hunting, strong process-oriented commitment to Community Based Conservation is required.

Sustainability of total levels of offtake

32. The causes of elephant deaths in the United Republic of Tanzania are sport hunting, problem animal control (PAC) (killing of elephants in protection of human life and property), natural mortality and illegal killing. The annual sport hunting quota for elephants is currently 200 males (export of 400 tusks). Records of natural mortalities were not available for the whole country and the Wildlife Division did not provide the data requested by the Panel on killing of problem elephants. Analysis of the Wildlife Division and TANAPA ivory store databases shows the accumulation of 9,705 whole tusks from natural mortality and 12,057 from PAC in the period 1989-2009. Averaged over the 21-year period, this is equivalent to 231 and 287 elephants respectively per annum.

33. The overall number of elephants removed from the wild population from all legal causes (sport hunting, problem animal control and natural mortalities) is therefore estimated to be a minimum of 718 annually, which is equivalent to 0.7% of the 2009 elephant population estimate (109,022). Given the very low carcass detection rates in general, it is likely that the number of natural mortalities is considerably higher. Nevertheless, the Panel believes that the level of legal elephant offtake would still fall within the expected rate of increase of the elephant population, ranging from 3 to 5% per annum, and should thus be considered sustainable.

34. Regarding illegal offtake, official poaching statistics provided by the Wildlife Division show 258 incidents during the period 2005-2009, with a high in 2009 of 82 carcasses. However, these data are considered by the Panel as an absolute minimum, given the low carcass detection rates. Extrapolations of poaching levels using ivory seizure records (both within and outside Tanzania) would be prone to error since some ivory originates from neighbouring countries.

35. The decline in the overall elephant population between 2006 and 2009 by more than 30,000 animals provides cause for concern regarding the sustainability of the levels of offtake. Most of the decline is accounted for by the decrease in the Selous-Mikumi ecosystem, where various factors indicate that illegal killing is the predominant cause (see paragraphs 6, 9, 10, 12 and 13 above):

    a) PIKE values collected at the Selous-Mikumi MIKE site have progressively increased between 2003 and 2009 (CITES Secretariat, 2010).

    b) Joint Wildlife Division/Selous Rhino Project aerial observations and foot patrols recorded more than a threefold increase in encounter rates of recently dead elephant carcasses between 2007 and 2008 (TAWIRI, 2010c).

    c) Tourism operators operating in the northern Selous reported to the Panel an increase in elephant (and other wildlife) poaching since 2007/8, including several incidents close to tourist camps.

    d) A significant proportion of the large seizures of ivory made in Asia in 2006 have been traced by forensic DNA work to elephants killed in the Selous-Niassa area (Wasser *et al.*, 2009).

36. Ivory confiscations highlight the Selous-Mikumi ecosystem as a hotspot. All ivory collected by Udzungwa National Park was from confiscations. Wildlife enforcement officials confirmed to the Panel that this

reflected the flow of illegally-sourced ivory from nearby Kilombero GCA. Wildlife Division ivory store records show that Morogoro and Lindi (adjacent to Selous-Mikumi ecosystem) account for the highest numbers of tusks confiscated by field-based Wildlife Division offices.

37. In light of these factors, the Panel believes it can be concluded that the current level of offtake is not sustainable in the Selous-Mikumi ecosystem, which accounts for around 40% of the total population. Legal and illegal offtake appear to be sustainable for other elephant ecosystems, in which the population is stable or increasing, including Tarangire-Manyara, Ruaha-Rungwe, Katavi-Rukwa, Moyowosi-Kigosi and Serengeti.

38. The Panel also assessed the sustainability of legal sport hunting. The annual quota has increased from 50 males (100 tusks) in the period 1997-2002 to 100 males (200 tusks) in the period 2003-2006, and to 200 males (400 tusks) since 2007. Quota utilization since 2007 has been less than 50%. The number of trophy-quality males removed from the population by other causes was assessed by examining the Wildlife Division and TANAPA ivory management databases, which showed a total of 520 whole tusks weighing more than 15 kg (minimum trophy weight) recovered nationwide in the period 1989-2009 from natural mortality (283) and problem elephant control (237). This represents the equivalent of a further 12 trophy-quality animals a year.

39. An estimate of the loss of trophy-quality males from illegal killing was derived from recent population changes, which reveal a net loss of around 11,255 elephants a year between 2006 and 2009. Trophy males do not normally exceed 1% of elephant populations, thus the current net loss of elephants is equivalent to the loss of around 113 trophy quality males a year. Nationwide, there is therefore a potential offtake of 325 trophy quality animals per annum, equivalent to 0.3% of the total population, which is less than the 0.5-1% of total elephant numbers that is widely considered to be the limit to sustainable hunting of trophy quality males in a healthy elephant population (Martin, 1986).

40. The Selous Game Reserve General Management Plan (2005) presents an analysis of 69 elephant trophies taken from the Selous Game Reserve between 1994 and 2004, which did not show a decline in quality. The Panel was not provided with the requested information on elephant trophy quality from 2005 to 2009.

Tanzania's ability to monitor its elephant population

41. TAWIRI, the Tanzania Wildlife Research Institute, is legally mandated to conduct research and monitoring of wildlife populations, including elephants in the United Republic of Tanzania. It is also the CITES Scientific Authority.

42. Wildlife monitoring started in the Serengeti Ecosystem in the 1960s under the Serengeti Ecological Monitoring Programme (SEMP). In 1989, Tanzania Wildlife Conservation Monitoring (TWCM), a joint project under TANAPA, Wildlife Division, NCAA, FZS and TAWIRI replaced SEMP. In 2001 the Conservation Information and Monitoring Unit (CIMU) replaced TWCM. CIMU is a unit under TAWIRI supported by the wildlife management authorities (TANAPA, NCAA and Wildlife Division). CIMU is dedicated to gathering information on wildlife numbers, distribution, trends, and human activities within and around PAs and extends its monitoring over a total area of ca.300,000 km^2, or approximately one third of the territory of Tanzania.

43. Methods for monitoring elephant populations and trends follow those originally developed in the Serengeti (Norton-Griffiths, 1978) and include the Systematic Reconnaissance Flight (SRF) and Total Counts (TCs). Dung counts (Hedges and Lawson, 2006) and ground transects using distance methods (Buckland et al., 1993) are applied in areas where use of aerial survey is impractical or hazardous. SRF is used in the Serengeti, Selous-Mikumi, Ruaha-Rungwa, Katavi-Rukwa, Tarangire-Manyara, Burigi-Biharamulo, Saadani, Mkomazi, Moyowosi-Kigosi and Ugalla PA systems. TCs are applied to the Serengeti and Tarangire ecosystems, while dung counts are used in Kilimanjaro, Udzungwa and Mahale. Population estimates undertaken in Katavi, Rubondo Island and Mikumi depend on ground transects.

44. Some 150 surveys have been conducted over the past 20 years, of which more than 60% have been undertaken in the larger and better known PAs, such as Serengeti, Selous, Ruaha-Rungwa and Tarangire-Manyara. Only recently have country-wide surveys been undertaken to estimate overall elephant population numbers. The first such survey was in 2006 (TAWIRI, 2007) and the second in 2009 (TAWIRI, 2010). The reports on these surveys will provide a spatial and numeric database for elephant populations in Tanzania and it is intended to update these every three years. Both the 2006 and 2009 surveys were

commissioned by the Wildlife Division of the Ministry of Natural Resources and Tourism and undertaken in collaboration with NCAA and TANAPA.

45. The Panel was impressed with the standard of data collection, i.e. the surveys themselves, and the level of preparation that precedes surveys. For example, an aerial-observer training workshop was held in 2009 (TAWIRI, 2009). Safe and secure data storage and archiving is evident, as is competent analysis and reporting following specific surveys. Currently data analysis uses a custom-made software, SISTA (Survey Information System for TAWIRI), which has been in use for the past three years. The CIMU team dedicated to these tasks is receptive and interactive. CIMU is also in the process of adopting the MIKE standards for aerial survey (Craig, 2006).

46. It is unfortunate however, that the collection of elephant carcass data (Craig, 2006) was not undertaken in either of the two surveys in 2006 and 2009. The inclusion of such data could have contributed to clarifying the extent of illegal activity discussed above and complemented the PIKE data collected at the MIKE sites. It is acknowledged that carcass ratios do not necessarily imply poaching *per se* (J. Blanc, pers.comm.) but can act as a very useful indicator of mortality.] The Panel was assured that such data would be collected henceforth, in accordance with MIKE standards.

47. This omission aside, TAWIRI, through its CIMU has the capacity and ability to monitor Tanzania's elephant populations professionally and effectively.

Effectiveness of current anti-poaching measures

48. In general, there is variable capacity among institutions charged with anti-poaching and insufficient coverage of areas particularly in Game Reserves, hunting blocks and open areas.

49. The Panel was informed that there are anti-poaching teams throughout the country in areas under the control of the Wildlife Division, Tanzania National Parks and Ngorongoro Conservation Area Authority. The Wildlife Division has eight zonal anti-poaching units, totalling 250 staff.

50. The Tanzania National Parks Authority has about 1147 rangers who patrol a total area of about 57,000 km², giving an average of one ranger per 50 km². By contrast, for the five Game Reserves of Selous, Moyowosi-Kigosi, Rukwa-Lukwati, Burigi-Biharamulo-Kimisi and Ugalla, with a total area of 79,672 km², there are 574 Wildlife Division game scouts, giving an average of one scout to 139 km². This is far below the level of one man per 50 km² that is needed for good coverage, which can increase to one man per 25 km² for areas under serious threat (Cumming, 2004). Wildlife Division informed the Panel that there was a need to triple the number of game scouts.

51. The number of Wildlife Division patrol man-days increased from 17,798 in 2000/01 to 72,783 in 2008/09, while TANAPA patrol man-days remained relatively constant during the same period, averaging nearly 99,700 per annum. The Panel was informed by the Wildlife Division that, for the Division and TANAPA, the number of man-days spent patrolling in 2008/2009 was 160,000, a drop of 10,000 (for TANAPA) from the preceding year. This apparently reflected an increase in operating costs and a declining budget allocation, together with a drop in revenue collection as a result of the impact of world economic crisis.

52. The presence of donor aid agencies (such as GTZ, whose project concluded in 2005), conservation NGOs (such as the Frankfurt Zoological Society and Selous Rhino Trust), photographic tour operators and hunting outfitters, and their supportive activities, all contribute directly and indirectly to the integrity and security of their respective areas of operation in reducing illegal activities (HAT, 2010; A.L. Mohamed, pers. comm.). For example, during the joint monitoring and anti-poaching activities of the Wildlife Division and the Selous Rhino Trust, aerial carcass detection rates (observations per 10 hours flying time) rose from 0.4 in 2006, 0.9 in 2007 to 3.2 in 2008 (TEMP, 2010). Donor-assisted projects incorporating protection and management components have played an important role in sustaining the efforts of the government-based wildlife sector.

53. It appears that the overall level of offtake from the elephant population in Tanzania outside of Selous-Mikumi maybe within the limits of sustainability but there are some areas of concern. Sources informed the Panel of signs of increased poaching in the south and western parts of the country. One such area of concern is Ugalla River Game Reserve, where TAWIRI reports that elephant poaching has increased over recent years and presents a serious challenge.

54. Nonetheless, as stated in paragraph 13 above, the level of illegal killing of elephant in Selous-Mikumi, which contains a major part of the country's elephant population, seems to be important and has apparently been increasing. This is in spite of the fact that (as indicated in paragraph 19) the level of funding available to the Wildlife Division in the period 2005 to 2009 should have been sufficient to provide a serious anti-poaching force. It is acknowledged however, that the expenditure of the Wildlife Division and TWPF revenue is spread over all protected areas in the country, as well as meeting other recurrent, training, research and development costs.

55. In July 2009, an increase in poaching in some western areas of the Selous GR were addressed through planning meetings which led to joint cooperative anti-poaching patrols involving rangers and scouts from Selous GR, the Udzungwa Mountains National Park, and Mikumi National Park (Chief Park Warden, UMNP, pers. comm.). Most recently, in December 2009, a well publicized anti-poaching operation code-named 'Operation Butterfly' was carried out in the Selous GR, led by the commander of special police operations.

56. Several organizations that provided comments to the Panel stated that they had obtained information through their work showing that some anti-poaching staff colluded in illegal killing of elephants and illegal trade in ivory. Others made accusations of involvement of higher level staff of the Wildlife Department. The allegations heard by the Panel were made in so many communications that the Panel believes it would be failing in its duty to the Conference of the Parties if it did not refer to them. The Panel, however, received no direct evidence to support the allegations.

TANZANIA'S ABILITY TO CONTROL TRADE IN IVORY FROM AFRICAN ELEPHANTS

Control of ivory stocks

57. The Panel inspected the three strongrooms holding the ivory that is proposed to be sold in the proposal from the United Republic of Tanzania, as well as relevant documentation and electronic databases. The Wildlife Department, TANAPA and NCAA each manage one of the strongrooms at their headquarters. At each location, the Panel was given an explanation of the procedures governing the movement and documentation of ivory. The Panel also visited Tarangire National Park and Kisarawe District Council wildlife office to review ivory management practices in places where ivory is held before being transferred to the main strongroom.

Storage and separation

58. The main Wildlife Division ivory store is a large warehouse located at Wildlife Division headquarters in Dar es Salaam. It holds the majority (89% by weight) of the Tanzanian ivory stockpile. The Panel made the following observations:

   a) Tusks are well organized on 42 metal racks according to their location of origin. Every rack has three shelves, which store different weight ranges (e.g. 0-7.5kg, 7.5-15kg, >15kg). Each shelf is numbered and its contents are recorded on a central database. Owing to the very large quantity of ivory (25,649 tusks and 6,548 pieces stated in the proposal), most shelves are very full; many contain more than 400 tusks.

   b) According to the proposal, the Wildlife Division does not hold any ivory of unknown origin. In general, there is adequate separation of ivory from legal and illegal origins. Shelves containing ivory of illegal origin were clearly marked as such, albeit being found in various locations within the warehouse. One shelf was labelled to contain ivory of both legal and illegal origins, separated by a piece of cardboard.

   c) A large quantity of confiscated ivory from pending cases is stored on racks along one wall of the store. The Panel was informed that these cases date back many years, yet the tusks have not yet been marked with CITES serial numbers because they are still court exhibits and cannot be marked until surrendered to the State. No complete ledger or register exists to document this large quantity of ivory. The documentation that was passed from the outgoing storekeeper to his successor in August 2006 shows that over 4,200 kg of ivory exhibits existed in the stores at that time.

   d) The Panel did not inspect worked or semi-worked ivory pieces, although substantial quantities are believed to exist. The documentation that was passed from the outgoing storekeeper to his successor in August 2006 shows that over 3,800 items of worked ivory existed in the stores at that time.

59. The main TANAPA ivory store is located at its headquarters in Arusha. Ivory used to be centralized at Arusha National Park, as stated in the proposal, but all ivory was moved to the headquarters in 2009 following reorganization of the main stores. The store is sufficiently spacious and tusks are stored on metal racks in an orderly manner according to their location of origin. Every rack has three shelves, each containing a different weight range. Each shelf is numbered and the contents are recorded on a central database. Ivory from legal and illegal origins is separated on different shelves and marked to show the origin. In addition, ivory of unknown origin is separated from the rest of the stock.

60. NCAA maintains its relatively newly-built ivory store at headquarters near the crater rim. The strongroom itself is relatively small and ivory is sorted by weight. The Panel noted that tusks are not separated by legal and illegal origins, although the markings would enable separation relatively easy.

61. All three main strongrooms belonging to Wildlife Division, TANAPA and NCAA are guarded by 24-hour armed wildlife security personnel and strong metal security doors with dual locks. The strong room in Dar es Salaam has security cameras, although they were not functioning during the visit by the Panel. None of the agencies operates visitation or key collection registers.

Weighing and marking

62. In the case of Wildlife Division and TANAPA, the Panel was informed that when ivory is first obtained in a park or reserve, it is weighed using a spring balance. When it is transferred to headquarters, it is re-weighed using more accurate scales. All ivory collected within NCAA is taken directly to NCAA headquarters where it is marked. Weight measurements were seen on all documentation and marked on the tusks in the three stores. The updated weight is recorded in the database and, in the case of Wildlife Division, the outside curve length is also recorded.

63. Ivory is punch-marked with a district registration (serial) number in accordance with the Wildlife Conservation Act. It is also marked with two sets of numbering systems using indelible ink (although the markings of one quarter of tusks inspected randomly were found to have become illegible). Initially, ivory is marked at the source, such as a Game Reserve, National Park or regional game office. The Panel was informed that three sets of digits are normally used. For example, MR/9/06 is the ninth tusk from Morogoro in 2006. Particularly in the case of ivory kept at Wildlife Division headquarters, the source-marking system was found to vary considerably between locations and it was not uncommon to find tusks marked with just an area code and serial number. As a result, some ivory was marked with the same source serial number.

64. All ivory tusks inspected were found to be marked in pen with a unique, national tusk serial number in accordance with CITES Resolution Conf. 10.10 (Rev. CoP14). For example, TZ07/00156/14 represents the 156th tusk marked in Tanzania in 2007 and weighing 14 kg. Most of the stockpile was marked with the CITES system in 2006. For example, at Wildlife Division, the serial numbers range as follows: TZ/06/00201-30999, TZ/07/00001-00326, TZ/08/00001-00764 and TZ/09/00001-00338.

65. The Wildlife Division has initiated a process of bar coding all ivory tusks in Dar es Salaam.

Registration and computerization

66. The overall accumulation rate of ivory has remained relatively constant over the past 18 years, averaging just over five tonnes a year since 1991 (overall quantities 34,642 kg in 1991, 52,296 kg in 1994, 72,196 kg in 1997, 117,207 kg in 2007 and 125,296 kg in 2009).

67. The format and system of documentation currently in use by all three agencies (combination of stock ledgers or registers and supporting documentation such as Issue Voucher, Ivory Consignment Note and Stores Issue Notes) theoretically provides for an auditable paper trail due to the: cross-referencing of both ivory and document serial numbers; the provision for counter-signatures at all stages of transfer; and the use of duplicate copies as confirmation of transfer and receipt to and from source areas and headquarters.

68. In practice, however, the Panel noted several challenges in verifying documentation. Most critically, the Panel was informed that a fire in May 2009 destroyed almost all original ledgers (and source documentation) at the Wildlife Division headquarters. Wildlife Division maintain a ledger for each source location and now only 12 ledgers remain, almost of all which appear to have limited utility for verification purposes since they do not represent an original record (i.e. most were written in recent years) or a complete record (i.e. gaps of several years appear in entries). Registers do still exist, however, for TANAPA and NCAA.

69. Further, inconsistent record keeping at Wildlife Division and TANAPA headquarters has led to substantial gaps in the source documentation used to accompany ivory to headquarters during the 1990s and some years of the 2000s. Where the documentation exists, it was generally found to contain an adequate record of the ivory measurements and the location where it was found, but it does not always indicate the cause of death or how the ivory was obtained. This affects the determination of legal and illegal origin.

70. In response to question on this issue, the Panel was informed that Wildlife Division and TANAPA undertook a targeted data collection exercise starting in 2006 to obtain key missing information from each source area, such as how the ivory was obtained and source documentation. (The datasheets still exist, and have been used to update the databases). In the case of the Wildlife Division, this process confirmed how every ivory piece was obtained, although the source documentation for 42% of all tusks and pieces is still not confirmed. The Panel was informed that, in many cases, the updated information was provided orally to the headquarters by the field station concerned. During a visit to Kisarawe District game office, the Panel was not able to confirm information provided to Wildlife Division headquarters for completing the data sheets, and in fact noted several discrepancies. On the other hand, cross-checks made during a visit to Tarangire National Park were positive.

71. All three agencies have computerized their ivory stock records. Wildlife Division operates a more advanced and comprehensive database that is password-protected and kept separate from the strongroom. It serves as an important management tool, although it was found to contain numerous data-entry errors. NCAA and TANAPA are currently operating simpler electronic spreadsheets. The Panel requested and received copies of the databases from Wildlife Division and TANAPA but not from NCAA.

72. The Panel conducted numerous checks between the physical stock, computer databases and the available source documentation and ledgers at Wildlife Division, TANAPA and NCAA headquarters. No major discrepancies were found. Overall, however, the Panel was not able to verify information on ivory stock origins presented in the proposal (particularly in the case of Wildlife Division) since most of the documentation has either been generated since 2006 or no longer exists.

Legal provisions regulating international and domestic trade in ivory

Moratorium

73. The Panel was informed that no commercial import or export of ivory has been authorized by the Management Authority of Tanzania since 1989.

Nature conservation legislation

74. Three agencies within the Ministry of Natural Resources and Tourism are primarily responsible for wildlife in Tanzania. Two parastatals, Tanzania National Parks Authority and Ngorongoro Conservation Area Authority, are established under the National Park Act CAP 282 RE 2002 and the Ngorongoro Conservation Act CAP 284 RE 2002 respectively. These organizations manage the conservation activities within National Parks and the Ngorongoro Conservation Area where wildlife is totally protected. The Wildlife Division, a government department, is responsible for the management of Game Reserves, Game Controlled Areas and all wildlife outside protected areas, where sustainable use is permitted. The Wildlife Conservation Act CAP 283 RE 2002 provides for control of hunting within these areas, the killing of elephants in defence of life or property, and the control of trophy dealing (which is defined to include raw or manufactured ivory).

75. Village land set aside for community-based wildlife conservation is governed by the Wildlife Conservation (Wildlife Management Areas) Regulations, 2005. These regulations provide for their establishment and management, including the control of hunting and other sustainable use. District Game Officers under the respective District Councils work in collaboration with MNRT to conserve wildlife outside protected areas.

76. Offences relating to elephants tend to be dealt with under the Economic and Organized Crime Control Act CAP200 RE 2002, which includes the unlawful capture, hunting, trophy dealing and possession of weapons as offences that carry sentences of up to 15 years.

77. On Zanzibar, the responsibility for wildlife lies with the Ministry of Agriculture, Livestock and Environment. The Forest Resources Management and Conservation Act No.10 of 1996 covers the protection of wildlife naturally occurring on the islands. However, this does not contain any provision regarding the control of trade in elephant specimens (or specimens of other species not found within the territory of Zanzibar) nor

any basis for implementing the provisions of CITES. The Panel was informed by Zanzibar authorities that the Wildlife Division and police have the authority to deal with ivory cases in any part of the United Republic of Tanzania including Zanzibar, but it is not clear what legislation provides the basis for this authority.

78. Legal sport hunting of elephants is covered by the Wildlife Conservation (Tourist Hunting) Regulations, 2000. Hunting is regulated by concession area, season, minimum trophy sizes (15 kg and 150 cm per tusk), annual quotas, post-hunt reporting, trophy registration, marking and export requirements.

79. The Panel was informed by the Director of Wildlife that regulations are being finalized to provide the operational basis for the new Wildlife Conservation Act of 2009. Amongst other provisions, it was reported to the Panel that the new law will increase revenue retention, increase penalties up to 30 years, and provide additional powers to law enforcement personnel. A copy of the draft regulations was requested from the Wildlife Division but not supplied.

Transit

80. The Wildlife Conservation Act CAP 283 RE 2002 regulates the export (requiring trophy export certificates) and import (written authority of the Director) of trophies through Tanzania. CITES permit requirements, re-exports and the use of designated exit points are not specifically covered, although they will be addressed in the 2009 Act. The Panel was unable to obtain information on the control of specimens in transit as the Customs authorities of the United Republic of Tanzania declined to meet the Panel.

Effectiveness of law enforcement

81. The United Republic of Tanzania is large, borders eight countries (Burundi, Democratic Republic of the Congo, Kenya, Malawi, Mozambique, Rwanda, Uganda and Zambia) and has a long coastline on the Indian Ocean. The ports of Tanzania deal with a considerable volume of cargo for most neighbouring countries, and are therefore key places for controlling entry and exit of goods. Because of the inadequate capacity of border control staff to detect wildlife contraband, considerable efforts have been made to mobilize combined resources, including cooperation with police, Customs, port authorities and regional stakeholders. As an example of the results, the police in Dar es Salaam made a seizure of 1,255 ivory tusks, weighing 3.2 tonnes, in January 2002.

82. There are a number of positive indicators of effective law enforcement in Tanzania. It has very small domestic ivory markets and carving industries, with the most recent ETIS analysis ranking it as having the second lowest measure of internal ivory trade (Milliken, *et al.*, 2010). There is generally high public awareness of the illegality of ivory trade. In order to mobilize support, sensitization forums involving law enforcement agencies and other stakeholders had been held with the support of the Lusaka Agreement Task Force and ICPO-Interpol.

83. Many ivory seizures have been made in Tanzania. Since 1989, ETIS records include 406 seizures (44,556 kg raw ivory equivalent) made in the country. The Wildlife Division ivory stock records also show substantial confiscations since 1989, including 5,622 whole tusks and 2,823 tips, equivalent to a minimum of 201 elephants a year. The ETIS analysis gives Tanzania a relatively good rating for enforcement effectiveness, since 72% of worldwide ivory seizures implicating Tanzania were made before the ivory left its borders (Milliken, *et al.*, 2010). While this is commendable, it is also evident that interdiction rates have progressively dropped from 91% in the 2002 ETIS analysis (Milliken, *et al.*, 2002).

84. Of greater concern is the fact that all large-scale seizures (>1,000 kg) involving Tanzania since 2002 have occurred after leaving Tanzania (TRAFFIC, 2009). These account for the majority (69% by weight) of ivory trade involving Tanzania (Milliken, *et al.*, 2010). In addition, there has been a progressive increase in the number of large-scale seizures involving Tanzania over successive seven-year periods starting 1989: from three seizures weighing 4,726 kg (1989-1995) to five seizures weighing 19,361 kg (1996-2002) to ten seizures amounting to 28,370 kg between 2003 and 2009 (TRAFFIC, 2009).

85. The ETIS analyses conclude that the prevalence of large-scale seizures indicates the involvement of active and entrenched organized criminal syndicates that are well-organized, financed, linked to trade networks and engaging in collusion and corruption ((Milliken, *et al.*, 2010; TRAFFIC, 2009). Enforcement officials interviewed by the Panel concurred that they faced a challenge of dealing with organized criminal elements involved in ivory trade within Tanzania, as well as the high possibility of collusion by individuals from agencies that fight smuggling. The Panel was informed of the involvement of customs officials in a

2009 case of ivory smuggling to the Philippines. In the same year, 21 clearing and forwarding agents were suspended, including three implicated in facilitating the illegal ivory exports. The Panel also received several reports regarding the involvement of wildlife officials in elephant poaching and ivory trade, particularly in southern and western Tanzania. While unable to confirm these reports, the Panel concluded that the decline in Tanzania's ability to prevent large-scale ivory shipments from leaving the country may be as much a reflection of compromised wildlife law enforcement as it is a factor of resource shortages and increased criminal organization.

86. Another challenge reported to the Panel is the low prosecution rates and sentences for ivory-related crime. Wildlife Division data show that, between 2001 and 2009, there were only 10 successful prosecutions for cases involving 118 arrested people and 12 tonnes of raw ivory, with prison sentences ranging from 18 to 60 months and fines not exceeding TZS 150,000 (about USD 110). Prosecution of suspects in cases where ivory has been seized outside Tanzania is reported to be adversely affected by delays in getting admissible evidence from countries of seizure. Enforcement officials informed the Panel that delays in bringing prosecutions are often caused by problems in calling witnesses. Prosecutions are still pending in relation to eight large-scale seizures of ivory originating in Tanzania since 2004, amounting to 19,630 kg of ivory.

87. With regard to Zanzibar, the Panel was informed by the Zanzibari officials and by the Wildlife Division that, for matters relating to trade in elephant specimens in Zanzibar, the Zanzibari law enforcement officers must liaise with the Wildlife Division in Dar es Salaam. It is not clear what would be the legal basis for any action in these cases (see paragraph 81 above) and it appears to the Panel that there may be legislative or administrative gaps that can be exploited by ivory smugglers.

Evidence of illegal trade through Tanzania

88. The United Republic of Tanzania plays a prominent role in the global illegal ivory trade. The most recent ETIS analysis reveals that the scale of its involvement (as measured by the mean weight of seizures made in or implicating Tanzania) is second only to that of China, and the value of the ivory concerned is more than twice that for any other cluster of countries (Milliken et al., 2010). Moreover, Tanzania's role in the illegal ivory trade appears to have increased in recent years, with the gap between China and Tanzania closing between CoP14 and CoP15; mean weights quoted in the CoP15 ETIS report are 38,531 kg for Tanzania and 42,772 kg for China. Overall, seizures involving Tanzania between 1989 and 2009 represent 44,037 kg or one third of all ivory seized globally, and Tanzania ranks first among African countries in terms of the total volume of ivory reported by large-scale (>1,000 kg) seizures (TRAFFIC, 2009).

89. Enforcement officials reported to the Panel that ivory enters the country from the Democratic Republic of the Congo, Kenya, Malawi, Mozambique and Zambia. It is evident that Mozambique not only has a large and unregulated domestic ivory market, but also accounts for considerable volumes of ivory moving through Tanzania (Milliken et al., 2010). During 2006 and 2007, four large-scale seizures were made in Tanzania, involving 8,800 kg of ivory moving from Mozambique (TRAFFIC, 2009). DNA mapping of some of this seized ivory showed that it originated on the Tanzania/Mozambique border, in an area that includes the Selous and Niassa Game Reserves (Wasser et al., 2009).

90. Dar es Salaam and Tanga have remained important points of exit for ivory moving through the country and leaving Africa. Analysis of data on ivory seized between 1989 and 2009 and stored at the Wildlife Division headquarters shows that 84% (10,149 tusks) was confiscated in Dar es Salaam and Tanga. This reflects the existence of their major air and sea ports, the latter being especially relevant for big shipments.

91. Since 2005, large-scale ivory seizures involving Tanzania have been made in China (including Hong Kong and Taiwan), the Philippines, Thailand and Viet Nam. Ivory consignments have also been seized on their way to, or in, Kenya and Burundi, with the latter re-emerging as a destination for ivory from western Tanzania (e.g. Ugalla Game Reserve) in recent years.

IMPACT OF THE ACCEPTANCE OF THE PROPOSAL ON THE TANZANIAN POPULATION

92. The Panel is asked to evaluate whether acceptance of the proposal from the United Republic of Tanzania is likely to have a positive or negative impact on the conservation of the elephant population and its environment in that country. For the purposes of this assessment, the Panel has considered primarily the trade in ivory, which is the main focus of the market demand for trade in elephant specimens.

93. With respect to trade in ivory, one purpose of the proposal is to allow the non-commercial trade in Tanzanian hunting trophies. The Panel does not consider this aspect of the proposal as relevant to this assessment because such trade is already permissible with the Tanzanian elephant population in Appendix I, and acceptance of the proposal will not change this.

94. The most relevant part of the proposal is the request to authorize the sale and export of the existing government-owned stock of ivory obtained from elephants that died naturally or that were shot in problem animal control, directly from Tanzania to China or Japan in not more than two shipments. The proposed countries of destination have already been certified by the Standing Committee and the Secretariat as having adequate national legislation and domestic trade controls to ensure that the ivory imported would not be re-exported.

95. The Panel believes that there would be no risk of the mixing of non-authorized ivory in the shipment with ivory certified as legally acquired, provided that adequate checks were made before the ivory was shipped. In this connection, one condition of the proposal is that no ivory would be exported before the CITES Secretariat has verified the stock that could be exported. The Panel notes that the Secretariat would need to determine which part of the ivory stock is clearly identifiable as legally acquired.

96. The Panel knows of concerns expressed by a number of States and non-governmental organizations that the transfer of African elephant populations from Appendix I to Appendix II and the authorization of trade in ivory do, or are likely to, stimulate poaching and illegal trade in ivory. However, the data available do not indicate that there is any clear relationship between such authorizations of ivory trade and the illegal killing of elephants or illegal trade in ivory. In fact, the data indicate that, following the first 'one-off sale' authorized by the Conference of the Parties (CoP), in 1999, the international illegal trade in ivory declined (see TRAFFIC, 2007). Following the second sale, which took place at the end of 2008, the total volume of illegal trade has evidently increased (see Milliken, *et al.*, 2010). In view of these two quite different trends after a sale, the Panel sees no reason for concluding that there is any definite link between the CoP authorization of ivory sale and export and the trends in global illegal ivory trade.

97. There would, however, clearly be a benefit for the Tanzanian elephant population if the Government of the United Republic of Tanzania used part of the funds from any sale of its ivory stock to ensure the effectiveness of its anti-poaching measures.

98. One of the proposed conditions of a sale is that the proceeds would be used not only for elephant conservation but also for "community conservation and development programmes within or adjacent to the elephant range in Tanzania". The Panel believes, like previous Panels that have reviewed similar proposals, that such use of funds could help to improve the tolerance of elephants by local communities, by demonstrating that they have a financial value. Such tolerance could help to reduce the number of elephants that have to be shot in problem animal control. It must be recognized, however, that there would be a conservation disadvantage if local communities came to regard non-tolerance of elephants as preferable because they were regarded as a source of income.

99. In spite of the numerous problems that it has observed, the overall impression of the Panel is that the impact of the adoption of the proposal would be positive for the Tanzanian elephant population if the funds obtained from sale of ivory are channelled to law enforcement and community conservation and development programmes.

CONCLUSIONS

Is the population viable and sustainable and are there particular risks?

100. Tanzania's elephant population can certainly be considered viable. It is questionable whether commitment to sustainable management and protection of this population is currently possible, at least under present financial arrangements within the Wildlife Division, and this could affect long term population sustainability, especially in southern Tanzania where illegal activity appears to be increasing.

101. Potential risks to the mobility of elephant populations are increasing, as well as such risks to less well protected range outside of legally protected areas (PA). Expansion of human settlement around PAs and increasing human-elephant conflict are probably the most important factors affecting and limiting mobility and elephant range.

102. At current rates of habitat change and land conversion, existing wildlife corridors have fewer than five years remaining before they disappear. Increasing isolation of PAs is likely to have serious implications for economic development and the sustainability of the tourism industry.

Has the range State demonstrated its ability to monitor its African elephant population?

103. The Tanzania Wildlife Research Institute and its Conservation Information Monitoring Unit have the capacity and ability to monitor Tanzania's elephant populations professionally and effectively. The adoption and implementation of regular country-wide elephant population surveys is a notable development but carcass data must be collected in future.

Are the current anti-poaching measures effective?

104. There is a clear indication of concern by the authorities to minimize poaching of elephant and other wildlife species. The various efforts to deploy staff and execute special anti-poaching operations in various parts of the country, particularly in the vast Selous Game Reserve, are noteworthy.

105. However, the decline in elephant numbers in some areas, particularly in the south and west and notably the Selous-Mikumi ecosystem, indicates that the anti-poaching measures in these areas have not been effective and there is a need for urgent solutions.

106. This seems to reflect either an inadequacy of resources for law enforcement or inappropriate allocation of resources, especially in the Tanzania Wildlife Division which controls such vast areas. Some commentators have suggested that there are also institutional reasons for the ineffectiveness of law enforcement but the Panel is not in a position to comment.

Is the total level of offtake from both legal and illegal killing sustainable?

107. The Panel believes that the level of legal elephant offtake (sport hunting, problem animal control and natural mortalities) falls within the expected rate of increase of the elephant population, in the range 3-5% per annum, and is thus considered sustainable.

108. Regarding illegal offtake, the decline in the overall population between 2006 and 2009 by more than 30,000 elephants is a cause for concern regarding sustainability. Various factors indicate that illegal killing is the predominant cause for the substantial decline in Tanzania's largest elephant population in the Selous-Mikumi ecosystem, where it is concluded that the current level of offtake is not sustainable. Levels of offtake appear to be sustainable for other elephant ecosystems which are stable or increasing.

109. With regard to the removal of trophy-quality males, the sport hunting quota of 200 males is set within sustainable levels, and quota utilization has stayed at around 50% since 2007. When considering other causes of removal, the potential offtake of 325 trophy quality animals a year is within the generally accepted limits to sustainable hunting of trophy-quality males in a healthy elephant population (0.5% to 1%).

Is the control of ivory stocks adequate to prevent the mixing of legal and illegal ivory?

110. If the proposal is accepted, the only raw ivory that would be authorized to be traded is the stock of known legal origin held at Wildlife Division, TANAPA and NCAA headquarters. All three stores have sufficient security and storage facilities and there is adequate separation of legal and illegal stock for the majority of ivory (except NCAA, although the Panel believes that separation is possible). The accumulation rate of ivory has remained relatively constant over the past 18 years, and the Panel found all ivory to be adequately marked according to the approved CITES system (albeit with the need to re-mark some ivory at Wildlife Division store). All locations have implemented computerized registers to facilitate record-keeping and analysis.

111. The format and system of documentation currently in use by all three agencies theoretically provides for an auditable system, sufficient to track the movement of every piece of ivory into the strongrooms and to ensure that ivory of legal origin is not mixed with ivory of illegal origin. Cross-checks of available documentation and physical stocks were generally positive in all three locations. However, the Panel was not able to verify information on ivory stock origins presented in the proposal. The Panel noticed significant challenges regarding the Wildlife Division store since most of the original documentation was destroyed in a fire during 2009. Surviving original documentation contains numerous discrepancies, the large quantity of

court exhibits lacks a register, and the existing record has been generated since 2006. This will undoubtedly affect the ability to conduct a full audit in the future.

Is law enforcement effective?

112. There is a clear understanding among the leading law enforcement agencies of the seriousness of poaching and illegal trade in elephant ivory. Tanzania has succeeded in limiting the scale of domestic ivory markets and carving industries, and collaboration among law enforcement institutions has resulted in a large number of ivory seizures (406 since 1989).

113. Despite these commendable efforts, the 2009 census, MIKE statistics and the increase in seizures outside the country all indicate that the effectiveness of law enforcement has reduced. All large-scale seizures (>1,000 kg) involving Tanzania since 2002 have occurred after leaving Tanzania, and their frequency and scale have progressively increased since 1989.

114. Available evidence suggests the involvement of active and entrenched organized criminal syndicates and low prosecution rates being impediments to enforcement effectiveness.

Are enforcement and controls sufficient to ensure that no significant amounts of ivory taken or traded illegally from other countries are traded within or through the territory of the affected range State?

115. The ETIS analysis gives Tanzania a relatively good rating for enforcement effectiveness, although the proportion of worldwide ivory seizures implicating Tanzania made before the ivory left its borders has dropped from 91% in 2002 to currently 72%.

116. Globally, the scale of Tanzania's involvement is second only to that of China, and Tanzania ranks first among African countries in terms of the total volume of ivory reported by large-scale (>1,000 kg) seizures.

117. The ability of enforcement agencies to detect ivory at border points is hampered by inadequate capacity when faced with a huge volume of truck and container traffic through the country. Ivory enters the country from the Democratic Republic of the Congo, Kenya, Malawi, Mozambique and Zambia, with Mozambique accounting for considerable volumes of ivory moving through Tanzania since 2006.

118. Since 2005, large-scale ivory seizures involving Tanzania have been made in China, the Philippines, Thailand and Viet Nam. Increased volumes of ivory have moved from western Tanzania into Burundi.

Are there adequate controls on trade in parts and derivatives from the African elephant other than ivory in the proponent State?

119. The only parts and derivatives other than ivory proposed to be traded by Tanzania are raw hides. The Panel was informed that there is no immediate intention to start trading raw hides but the CITES Management Authority intends to apply the usual CITES procedures to control such trade if there is a demand. The Panel believes that there is no reason why the controls on any such trade should be different than for trade in skins of other CITES species or many other part and derivatives in which Tanzania has experience.

Are there adequate controls on ivory trade in specified importing countries?

120. The proposal of the United Republic of Tanzania contains a commitment that, if it were accepted, the commercial export of ivory would be in no more than two shipments and could only be direct to China and Japan. In accordance with the current annotation regarding populations of African elephant in Appendix II, the CITES Standing Committee and the Secretariat have already determined that these two countries have sufficient national legislation and domestic trade controls to ensure that the imported ivory would not be re-exported and would be managed in accordance with all requirements of Resolution Conf. 10.10 (Rev. CoP14) concerning domestic manufacturing and trade. As they were thus approved by the Parties as potential importing countries, the Panel considered that this question was already dealt with.

Would the acceptance of the proposal be likely to have a positive or negative impact on the conservation status of the elephant population and its environment in the affected range State?

120. The Panel believes that the acceptance of the proposal by the Conference of the Parties would be beneficial to the conservation of the elephant population of the United Republic of Tanzania provided that:

- the money obtained from the commercial sale of ivory and from hunting fees and other related income were used directly to improve the anti-poaching patrols in the areas where the largest elephant populations are found; and

- a significant proportion of the funds from sale of the ivory resulting from problem-animal control were returned to the local communities where the elephants were killed.

121. It must be clear however that, although a short-term improvement can be achieved by a large 'injection' of funds from the sale of the legally obtained stock of ivory, what is really required is a commitment to improving the funding for conservation of elephants in the long term (with a benefit for other species in the same range). This could be supported using the significant income from tourist-related activities in elephant range areas, as well as the hunting-related income, including hunting fees, block fees, conservation fees, permit fees and professional hunters licence fees, and by the re-establishment of the Selous retention scheme.

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