

ENSURING SECURITY OF RHINO POPULATIONS



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SUMMARY OF GUIDELINES FOR: ENSURING SECURITY OF RHINO POPULATIONS

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The establishment of anti-poaching systems should be based on the concept of maximizing the risk for poachers whilst also minimizing their potential rewards from killing rhinos.

Maximizing the risk to poachers is achieved by maintaining intelligence networks and by ensuring effective field surveillance of rhino populations, with this surveillance including civilian elements such as tourist operators, researchers and unarmed rhino monitors who may be engaged by NGOs. These varied eyes and ears must be coordinated to ensure the earliest possible detection of poaching incursions, to be followed by swift and aggressive reaction by anti-poaching units.

Minimizing the returns to poachers involves measures such as dehorning rhinos, translocating some of them elsewhere when poaching becomes prevalent, increasing legal penalties, influencing communities to deplore poaching, disrupting horn trading networks, etc.

The fundamental aim of anti-poaching is to reduce the motivation for poachers to enter a rhino area in the first place, through the ongoing demonstration of high risks and low rewards. It is not necessarily a sign of anti-poaching success that the protection units have a high rate of encounters with poachers and win all or most of those encounters; once diverse groups of poachers have started frequent incursions, the situation deteriorates into a “poaching war” and the rate at which rhinos are lost can soon become unsustainable.

Manpower densities for effective anti-poaching within an area that contains rhinos are unlikely to be less than one man (suitably trained, equipped and motivated) per 20 km², and in many cases this density may have to be increased to one man per 10 km².

Of all the items of equipment that are required by anti-poaching staff, reliable handheld radios are amongst

the most important because effective communications will reduce the time between a poaching incursion being detected by someone, and a reaction being achieved. Thus the poachers will inflict less damage on the rhino population.

Recording and analysis of field patrol effort, and the outcomes from this effort, are essential in order to reliably monitor trends in poaching activity, over different areas and over different time periods.

Incentive systems for anti-poaching staff, and informer and reward systems within all sectors of the local community and staff, are important for the protection of rhinos. However, these systems need to be implemented with considerable care as poorly administered incentive and intelligence systems can become worse than none at all.

All possible information must be derived from each rhino poaching incident, using appropriate methods of scene-of-crime analysis. This evidence must be carefully recorded and/or preserved in accordance with the legal steps required to present the evidence in court. Expert witnesses should be used whenever possible to reinforce the case for prosecution.

Investigating agencies should follow established procedures to share their information with sister agencies who have valid needs for such intelligence. Specific databases have been designed to facilitate this.

The rhino management authorities within every range state should undertake regular assessments of the amount of rhino horn that is likely to be derived from various sources (natural mortalities, dehornings, etc.). The anticipated accumulation of horn into official stockpiles from these sources should be compared with actual accumulation rates in order to detect leakages of horn to the illegal sector. The horn stockpiles must be maintained in accordance with CITES regulations and must be regularly audited.

6.1 Reducing incentives for rhino poaching

Two fundamental points pertain to commercial rhino poaching:

- dealing with poaching through a military response to the detection of carcasses, poachers' tracks, gunshots, etc., is insufficient in itself because by the time this stage of reaction is reached, the rhino population will have sustained losses, which are likely to continue as poachers gain local knowledge and slip in and out through an overstretched security screen;
- to be proactive rather than reactive, the emphasis of anti-poaching must be placed on reducing the motivation for would-be poachers to make any incursions into a rhino refuge in the first place; this requires a comprehensive strategy to ensure that disincentives (risks) for poaching outweigh incentives (rewards).

Some options for tackling the poaching problem holistically, in terms of the reward/risk equation, are as follows.

Increasing risk to poachers

- Allocate more manpower to field protection, using staff members who are adequately trained and authorized to respond aggressively to poaching incursions. The question of adequate authorization is a vexing one for private sector operations; the official law-enforcement agencies need to do all they can to empower private rhino guards (e.g. by training and attesting them as militia) while ensuring that their use of force remains in conformity with the laws of the country.
- Allocate manpower to rhino monitoring, with an emphasis on the deployment of men who are proficient in the tracking and identification of rhinos but who do not necessarily have to be heavily armed and to participate in confrontations with poachers. These rhino monitors may be employed by conservation NGOs as an auxiliary force to operate in state-protected as well as private or communal areas (provided they are security-cleared and have reasonable

conditions of service so that they are not tempted to poach or to collaborate with poachers). By putting these men in the field, the chances of rapid detection of poaching activity are maximized.

- Allocate more anti-poaching resources (equipment, fuel, etc.) to field protection. There is little value to be derived from extra manpower unless these men have adequate housing, transportation and patrol gear. Some NGOs have flexibility to assist with "shopping lists" (ad hoc needs) when poaching flares up in state-protected areas, but donors are generally reluctant to commit to long-term support arrangements that create dependency.
- Develop intelligence networks, backed up by a reward system for information on poaching activities (see below).

Decreasing the reward for poachers

- Reduce rhino densities by translocating some rhinos to other, more secure areas (if available).
- Dehorn rhinos (see below).
- Induce community attitudes that favour rhino conservation and ostracize poachers.
- Disrupt horn trading networks, which are often associated with smuggling of other commodities, so that poachers have less access to reliable outlets for horn.
- Work to ensure effective prosecution and conviction of rhino poachers and horn traders, and the handing down of deterrent sentences rather than lenient ones.
- Induce community attitudes that favour rhino conservation and ostracize poachers.

6.2 Manpower levels

Experience in Zimbabwean parks (which have generally been intermediate in terms of funding between the relatively well-funded parks of South Africa and parks elsewhere in the SADC region) suggests that the number of rangers that is required to patrol these parks is approximately equal to the square root of the area (in km²) of that park (R.B. Martin, pers. comm.). Thus a park of 400 km² would require about 20 men on active duty, whereas a park of 4,000 km² would require 63 men in the field.

However, the manpower needs for rhino protection will tend to be greater than this: the minimum manpower density that should be in place for rhino protection is one active, trained and adequately equipped scout per 20 km², and this would have to be increased to one man per 10 km² where poaching pressures are high and where there is a risk of “hit-and-run” poaching incursions into a small, accessible rhino reserves. In the larger parks with rhinos, the manpower density of one man per 20 km² need not be maintained throughout the area but only in the sections that contain rhino concentrations (“Intensive Protection Zones”).

Each man would be expected to spend at least 15 days per month on patrol or undertaking other rhino protection duties in the field, rather than in the park’s bases.

In larger reserves, it is highly desirable that the basic field force is complemented by a reaction unit of a well-trained, highly-motivated individuals with rapid deployment capabilities. It is also recommended that a specific rhino monitoring unit is established using rangers or auxiliary staff with particular tracking, bushcraft, radiotracking and other rhino monitoring skills and experience. These men, some of whom may be engaged by NGOs or tourist operators, need not necessarily be armed to deal with poachers, although they may need some weapons to protect themselves against dangerous wildlife. A ratio of one of these monitors per 20-25 rhinos should be adequate to maintain up-to-date rhino identification files as discussed in Section 4.11.2. This rhino monitoring unit would have a focus on signs of poaching activity within the areas of rhino concentration while the rest of the IPZ or park staff would operate more generally. However, even if a rhino monitoring unit is present, the other men who patrol the park should be trained in basic rhino monitoring (recording earnotches, etc.).

Park administration should include a system to monitor law enforcement effort (days spent on patrol, relative patrol effort for different zones of the park, detection of illegal activities and sightings of rhinos in relation to patrol effort, etc.). The principles that underlie the design and implementation of such a system for rhino conservation are described by du Toit (1989) and a SADC RPRC software program has been designed to assist in the capture and analysis

of relevant patrol data within a customized database (Purchase, 2004). New technological developments include miniaturized GPS engines and data-loggers, making it possible to produce small, robust and cheap devices to automatically record patrol routes and to fix locations of key events or sightings in a format that readily inputs to the law-enforcement database for a park. A customized device of this type is under development within the SADC RPRC.

6.3 Equipment, training and motivation required for protection of rhinos

Radio communications are of fundamental importance to rhino protection and necessitate the establishment of a radio system (using repeater stations if necessary) that enables communication on VHF handheld radios (“small means”) throughout the park, or at least throughout the IPZ. Having a communications system comprised only of HF base station radios (“big means”) is insufficient because the rapid detection of, and reaction, to poaching incursions can only be achieved if patrols or rhino monitors immediately communicate their information. In addition, patrols in areas of dangerous wildlife and other natural hazards need to be able to summon help in the event of an accident. It is highly desirable to have several channels for the VHF radio system, maintaining at least one secure channel but also including a general-use channel that enables communications between the anti-poaching staff, tourist operators and other personnel who have legitimate business in the area and can act as “eyes and ears” and provide logistical support if necessary.

The weapon that is most commonly used to kill rhinos is the AK47, and can be expected to be used by poachers in fire-fights, so anti-poaching units must be equipped with equivalent automatic or semi-automatic assault rifles. Men that are not authorized or trained to engage in fire-fights (such as rhino monitors or non-government staff) can be equipped with shotguns for basic self-defence with the advantage that these weapons cannot be used to kill rhinos, therefore any inclination towards internal poaching is reduced.

Apart from radios and firearms, basic patrol equipment and materials (back-packs, water bottles, binoculars, spare radio batteries, notebooks, maps, GPS devices, rations, etc.) are required for effective anti-poaching and must be consistently supplied. However, care

must be taken with the use of GPS devices because experience in some areas has shown that excessive reliance can be placed on these devices for “getting from point A to point B”, with inadequate bushcraft and a failure to observe the terrain, wildlife, water points, potential poachers’ routes, etc.

Field patrol staff must be adequately trained (in weaponry, drill, anti-poaching tactics, etc.) and disciplined under a fair Code of Conduct. They should also be rewarded for good performance through an equally fair incentives system. However, two major considerations apply to an incentives system:

- the system should not be initiated unless it is sustainable because if it lapses after being started, due to lack of funding or other reasons, this will demoralize and antagonize the field staff (hence donor-supported incentives systems must be viewed with caution);
- the system should be strictly applied according to clear rules, with objective means of verification of effort or performance, and it should be accessible to all personnel who perform the same duties in the face of the same risks.

6.4 Considerations for private and communal sector operations

Anti-poaching personnel operating on private land should, to the fullest extent possible under national legislation, be indemnified against any legal claim arising out of actions taken by them in pursuit of rhino poachers. In some countries, it is possible for anti-poaching personnel from private reserves to be attested into the national police force or parks service as auxiliary members. This gives them the powers of arrest and the necessary indemnification.

The employment of community game guards for monitoring rhinos and undertaking law enforcement should be encouraged wherever the land tenure system makes this approach relevant. The national wildlife agencies should participate in the training of the game guards and should occasionally provide their own personnel to carry out joint patrols with the game guards. As with anti-poaching personnel on private land, community game guards have to be

legally indemnified to the fullest extent possible in order to operate effectively, but in giving these men greater powers care must be taken not to undermine any traditional hierarchies or disciplinary processes that might be effective in community-based rhino conservation.

6.5 Informer and reward systems

The use of intelligence ensures optimum utilisation of ground patrol staff in that deployments are done in those areas where illegal activities are most likely to occur. A highly effective intelligence gathering system can reduce the number of anti-poaching patrol staff required in wildlife conservation agency. This can only happen where people who provide information about wildlife crimes are motivated by being justly rewarded and their identity is not compromised; compromising the identity of an informer can obviously lead to retribution by those whom the informer will have informed upon.

Staff members who are involved in anti-poaching intelligence have to be trained on how to infiltrate poaching gangs and how to recruit and handle informers. An informer must have only one handler so as maintain the informer’s confidence that he or she is being dealt with in a confidential way. The organisation must have a documented reward system, which stipulates the various categories of information and the corresponding rewards and these have to be reviewed on a regular basis to ensure they remain attractive to the informer lest the informer turns ‘double agent’ and starts passing information on patrol deployments, etc., to the poachers. The categories of information will depend on the amount of effort and risk entailed in procuring that information.

An informer reward system, because of its confidentiality, can create significant accounting problems that will need careful consideration within the wildlife agency in order to balance the needs of the system against the risks of corruption. Some state agencies (or NGOs) have sufficient flexibility in their accounting systems to be able to provide funds that do not have to be accounted for by investigations staff when paying undercover informants. Other state agencies or NGOs do not have this flexibility and can only support a more transparent, accountable

arrangement in which defined rewards are paid to witnesses in court cases that lead to successful prosecutions of poachers. This less flexible system is, nonetheless, very effective if it is well-publicized.

This effectiveness arises from the fact that if there is general knowledge that informants will be paid big rewards for facilitating convictions, a potential rhino poacher will become aware of this and will therefore see a greater risk of being informed on and caught if he gets involved in poaching. Therefore he will be less inclined to take the risk of shooting rhinos. A clear example of this type of well-publicized reward system constituting a significant disincentive for rhino poaching comes from the Lowveld conservancies in Zimbabwe, where rhino poaching in the early 1990s stopped once a reward system was coupled with a dehorning programme.

6.6 Entrapment versus enticement in apprehending dealers in rhino horn

Entrapment arises in a situation where a law enforcement officer is aware that there is someone who has rhino horn and is looking for a buyer, but the officer may not know where the rhino horn is being kept so getting a search warrant to simply search for the horn and make an arrest may not be possible. The only option may be to find someone who poses as a buyer and arranges a date and venue for the transaction to take place so that the horn seller can be arrested during the transaction. Most wildlife laws in the SADC region make possession of rhino horn without a permit a crime, so the burden of proof is placed on the person who has the horn in his or her possession to show that such possession is lawful.

A somewhat different entrapment situation may arise when a person approaches an employee of a conservation agency and offers to buy horn illegally from the employee. In order to set up a trap, the conservation agency could supply a horn so that the employee can pose as a corrupt member of staff, going along with the offer of an illegal transaction. The significant difference between this situation and the one outlined above is that now the State must prove deliberate unlawful intention on the part of the accused. Therefore, the State has to show that the accused made a concerted effort to

buy the horn (such as repeated approaches to the witness), and to strengthen the State's case the witness must show that he/she tried to dissuade the accused from pursuing the transaction. Courts tend to treat these situations with circumspection based on the possibility that the suspect may have been deliberately enticed into engaging in the unlawful activity. Thus, the courts may refuse to prosecute or if they do agree to prosecute, the penalties meted out may be relatively low.

6.7 Acquiring information and evidence through crime investigations

The use of appropriate scene-of-crime techniques can play an important role in:

- maximizing the chance of identifying and apprehending criminals; and,
- ensuring that the evidence collected at a scene of crime is admissible in court, in order to maximize the chance of achieving an appropriate conviction.

Because of the importance of these issues in rhino protection, the SADC RPRC has arranged specialist scene-of-crime training courses in several SADC rhino range states. Follow-up training will be required in future in some range states, hence the SADC RESG has recommended that the existing scene-of-crime course should be modified to have greater emphasis on training-of-trainers, thus maintaining training capacity into the future. It is strongly recommended that in addition to specialised police units and wildlife investigators, senior field managers in charge of rhino areas are also trained in scene-of-crime techniques. It would then be more likely that someone who is appropriately trained can attend to the crime scene relatively quickly, thus maximizing the gathering of useful evidence which is rapidly lost.

The procedures that need to be followed are mainly standard ones for any outdoor crime scene, generally involving shooting. Thus, patrol staff must be made aware of the crucial need to preserve evidence (avoiding disturbance or degradation of the site by humans, wildlife, the weather, etc.), while those who investigate this evidence must record all possible details (through systematic note-taking, sketches, photographs, sample collection, etc.) and must

maintain the chain of evidence right through until a court case to ensure that evidence and exhibits will be admissible in court. To increase the likelihood of evidence being found, these basic techniques must be enhanced by making the relevant personnel aware of aspects that have particular significance in rhino-related crimes. Examples of rhino-specific aspects are:

- an understanding of how poachers are likely to find, stalk and shoot rhinos will aid in finding poachers' spoor and bases, locating spent cartridges for ballistics investigation, finding witnesses to interrogate, etc.;
- knowledge of the typical decomposition rate of a rhino carcass will assist in determining the likely date, month or year of a rhino's death;
- being aware that the decomposition process causes bullet heads to be gradually buried in the soil humus under a rhino's remains will make it more likely that the investigator will dig for this evidence;
- insight into the typical daily movement patterns of rhinos, and their likely interactions with other rhinos depending upon their age and sex, may lead to the discovery of other rhino carcasses, or may enable the investigator to back-track from the site of a rhino's death to another site where the rhino was initially wounded.

The above examples emphasize the fact that the follow-up to rhino poaching requires some special skills and experience. Hence, it should not be assumed that the policemen, soldiers, militia or other such security personnel of a range state can routinely take care of the follow-up, without further training or without the involvement of suitably experienced colleagues.

6.8 Interacting with courts that deal with rhino crimes

In some countries, wildlife investigators working for conservation agencies can provide significant assistance to prosecutors during preparation for a case involving rhino crime, and they may also be able to accompany them in court and give them further advice and information as is needed during the case. The use of specialised wildlife prosecutors, if available, will also help to ensure convictions.

Even if a conviction is secured, a lenient sentence may be imposed unless expert evidence is presented to convince the court that maximum penalties should be applied to those who are found guilty of rhino crimes. Obviously, if someone convicted of a serious rhino crime gets off with a paltry fine which is lower than the value of the animals poached and/or the estimated black market value of horn received by the poacher, this will not act as a deterrent to future poaching.

In some SADC countries, after conviction and prior to sentencing the prosecution can call upon an expert witness when arguing in aggravation of sentence. This witness can stress the rarity, plight and value of rhinos, the consequent seriousness of the crimes, the country's responsibility to conserve the species according to a number of international conventions, as well as the need for effective deterrent sentences. The seriousness of rhino crimes can be further highlighted by quoting the live sale and other economic use values of rhinos, explaining their contribution to the creation of employment and foreign currency in the tourism industry, and outlining the costs to the country of protecting rhinos (in human and financial terms). The fact that much of the illegal profit from rhino crimes is made by foreign nationals in consuming states should also be stressed. The use of a representative from an international organisation (such as the AfRSG Scientific Officer), or the country's national rhino coordinator, to present such information in a technical way can assist in lending credibility to these arguments.

The difference between rhino crimes (of greed) and subsistence poaching by poor people (crimes of need) should be made clear during the prosecution and presentation of evidence in aggravation. Nonetheless, in cases when rhinos are snared by people claiming to be attempting to trap other animals, the magistrates need to appreciate that these cases cannot be regarded with any leniency because the risk to rhinos in those particular areas makes indiscriminate snaring an even more serious offence than usual.

When dealing with potentially controversial rhino cases, such as those involving entrapment, it may be advisable for the prosecution to seek high-level legal advice. For example in one case, the local Swazi prosecutor benefited from advice from the KwaZulu-Natal Attorney General who was an expert in the law regarding entrapment cases.

6.9 Law enforcement databases and sharing of information

The cross-border nature of horn smuggling, and also of poaching in many situations, requires that different national or provincial law enforcement agencies cooperate and share intelligence. Various wildlife agencies keep crime registers into which they record all wildlife crime offences. As the records are maintained manually, often in bound books, it is difficult to share this information with other interested sister agencies. This often results in some criminals with known previous rhino crime cases being treated as first offenders and therefore getting away with lenient sentences. Also, leads in an investigation by one agency can become blocked by lack of relevant information from another.

With partial SADC RPRC funding, a law enforcement database initially developed in KwaZulu-Natal has been enhanced and has been made available throughout the SADC region. This database allows users to store and link information about investigations, court cases, incidents, suspects, convicted criminals, suspected front businesses, vehicles, weapons, species, photographs, documents, etc. A number of customised reports and graphs can also be produced. A central (national or HQ) version of the database is available as well as a satellite version (for individual parks or sections within parks). Data can be sent from satellite versions to the central version. The software and training videos are available from the SADC RPRC.

There are currently two formal bodies actively involved in facilitating intelligence networks: the Interpol Environmental Crime Working Group (IECWG), which is an arm of Interpol Southern Africa Regional Office, and the SADC Rhino and Elephant Security Group (RESG). These two groups hold their meetings back to back, as this is cost-effective and also maximizes the sharing of information between the groups.

6.10 Dehorning programmes

At the height of rhino poaching, dehorning of rhinos has been carried out by several range states. Namibia pioneered this process, in 1989, and dehorned a large number of vulnerable rhinos until poaching abated in the mid 1990s. In November 1991, Zimbabwe

conducted an experimental dehorning exercise for 59 white rhinos in Hwange National Parks and followed-up with a national rhino dehorning programme, commencing in June 1992 and involving over 400 dehornings. Similarly, wildlife authorities in Swaziland dehorned all remaining white rhinos around the same time. From these various dehorning programmes, the following salient points become evident.

- Dehorning entails an acceptably low risk of mortality during the drug immobilization and dehorning procedure. For black rhinos, the mortality risk has been under 1%.
- Although allegations were made that dehorned rhinos were at greater risk from fighting with rhinos that still had horns, along with allegations that a few dehorned cows were unable to protect their calves from predators, no convincing evidence was produced to back these assertions.
- The horns re-grow normally, at a rate of approximately 6 cm/year for front horns, and 3 cm/year for rear horns; after 3-4 years, the horns look normal again.
- The immobilizations are expensive (usually at least US\$500 per rhino) but often provide opportunities to concurrently ear-notch, or radiocollar, or translocate rhinos.
- Tourists tend to accept dehorning as the demonstration of effort to protect the species, rather than regarding dehorned rhinos as alarmingly disfigured.

The fact that a large number of rhinos were poached in Hwange NP (Zimbabwe) more than a year after dehorning operations had started has been cited as evidence that dehorning does not stop rhino poaching. However, during late 1992 and early 1993, anti-poaching efforts in the park were virtually halted due to budget cuts. At this stage, over 40% of the estimated Hwange population of 200 black and white rhinos had never been dehorned, or had substantial horn regrowth. Thus in a situation of minimal risk, it was still worthwhile for poachers to continue operating in Hwange NP despite a reduced reward (in terms of a somewhat lower yield of horn). In addition, it can be postulated that poachers harvested horn stubs from dehorned rhinos while they had the opportunity to do so, but subsequently experienced market resistance to these unnatural horns when they attempted to trade them. This possibility, coupled with the increasing

protection that was achieved within Sinamatella IPZ, may well have tipped the balance towards inadequate reward to poachers in relation to the growing risk that they faced of being detected. The dehorning programme collected about 400 kg of rhino horn in Hwange NP alone, that would have otherwise have entered into, and helped maintain, the illegal trading network.

Partial or complete dehorning is recommended to reduce the risks of traumatic horn loss during rhino translocation (agitated rhinos can accidentally knock their horns off in crates or in pens, leaving bleeding horn bases). Dehorning will also reduce the risks of injuries if rhinos fight each other while they attempt to establish their dominance in new areas. However, dehorning under these circumstances has to be weighed against the need for inserting horn transmitters in translocated rhinos.

6.11 Management of rhino horns

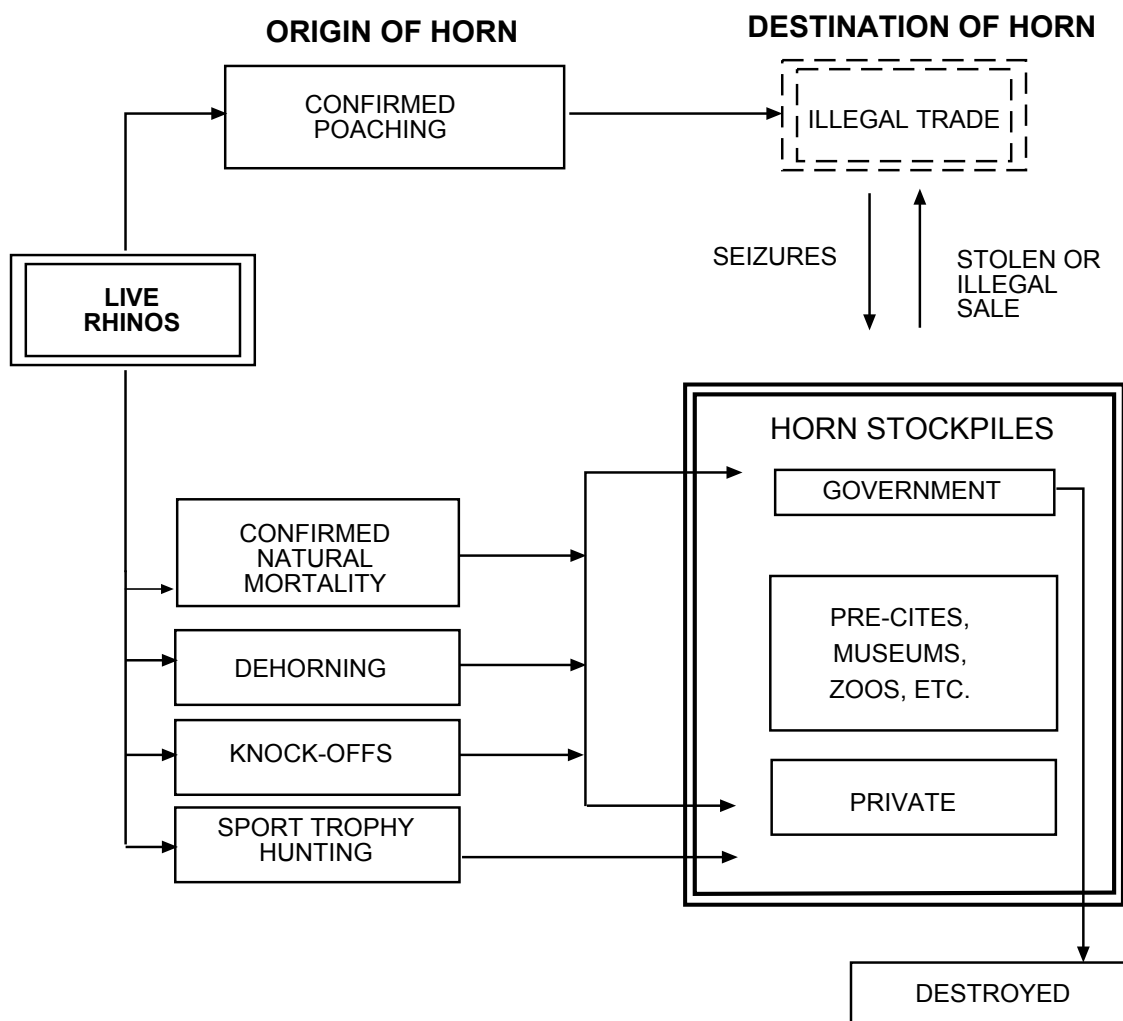
6.11.1 Sources and stocks of rhino horn

This issue has been reviewed, as a SADC RPRC exercise, by Milledge (2002) who produced the following diagrammatic representation and whose report can be consulted for greater detail.

Sources of rhino horn are:

- natural mortality through old age, territorial fights, etc.;
- planned dehorning exercises;
- seizures from poachers and other illegal activities

Figure 5: Simplistic view of rhino horn movement.



Sources of rhino horn, for accumulation by the national rhino management agencies, are:

- natural mortality through old age, territorial fights, etc.;
- planned dehorning exercises;
- seizures from poachers and other illegal activities;
- accidental, traumatic loss of horns (particularly breakages during fighting or translocation);
- sport trophy hunting.

chart, based on the circumstances that apply to the rhino population(s) under its management, to predict the likely annual yield of rhino horn from natural or legal sources and to verify if the horns are in fact being accumulated at approximately this rate, or if there is a significant deficit arising because of poaching or theft from horn stocks. The issue of carcass detection rates would need consideration here, in terms of the patrol effort that is (or should be) achieved in each area that contains free-ranging rhinos.

Stocks of rhino horn (apart from the horns carried by live rhinos) are:

- government stockpiles;
- private stocks (being horns from privately owned rhinos, or horns obtained before rhinos were listed on CITES appendices and which can therefore be held legally by private owners provided they are registered);
- illegal stocks (being horns in sale, in transit, being stored for future sales, or not intended for trade but which may nonetheless be illegal if they have not been registered (where this is required by national legislation)).

The proportion of horn within these different stocks will vary greatly from country to country, depending upon the size and ownership of the rhino populations, management systems, poaching levels, etc. Each rhino management authority should develop a flow

Figure 6: Sources of illegal horn and some modes of intervention (from Milledge, 2002)



The total quantity of horn in recorded stockpiles within Africa (around 15 tonnes) is believed to be approximately equal to the total quantity outside Africa, of which a significant proportion is in depleting stockpiles in Asia. With this accumulation of stockpiled horns within Africa, it is feasible that the illegal supply of horn from these stockpiles (through theft or national corruption) could exceed the amount of horn that could be derived through poaching. This situation arises not only because most remaining rhino populations are protected better than they were in the 1970s and 1980s, but also because the government and private stockpiles have been building up. Thus improved security and monitoring of SADC horn stocks is essential.

At the eleventh Conference of the Parties to CITES in April 2000, Parties adopted CITES Resolution Conf. 9.14 (Rev.) *“Conservation of and trade in African and Asian rhinoceroses”*. Whilst acknowledging the many successes and advances in rhino conservation worldwide, it recognised the need for continued efforts and specific interventions. This Resolution, the only one of its kind specific to rhinos, clearly recognises the need for appropriate monitoring and counter measures to minimise the risk of horn stockpiles entering illegal trade. It urges *“all Parties that have stocks of rhinoceros horn to identify, mark, register and secure all such stocks”*. Further, horn stocks are one of several details that should be submitted by all Parties in a biannual report to the CITES Secretariat six months before every Conference of the Parties to CITES. Amongst other issues, the Resolution also urges *“all Parties to adopt and implement comprehensive legislation and enforcement controls, including internal trade restrictions and penalties, aimed at reducing illegal trade in rhinoceros parts and derivatives”* and *“that law enforcement cooperation between and among States be increased in order to curtail illegal trade in rhinoceros horn”*.

Existing deficiencies in horn stockpile management would have to be addressed by any SADC countries that wish to pursue options for legal horn trade, under CITES, in future. South Africa, with the largest national rhino populations and with the largest involvement of the private sector, is inclined to consider trade options but would require significantly improved stockpile management within the private sector before any of these options would be feasible.

6.11.2 Securing legal horn stocks

The horns from trophy hunting are exported (and recorded) under CITES controls. Horns from the other natural or legal sources should of course be securely held. Once rhino horns from any of these sources have been received they should immediately be measured, weighed, allocated a unique serial number, marked and recorded in a rhino register. The register must be a bound book with numbered pages to minimise the chances of the records being tampered with. A duly completed and signed-for issue voucher must accompany the movement of horn from one office to the other. All horn must ultimately be stored in one national or provincial store rather than at various offices. Each horn at the national/provincial store must be marked with a unique national number as prescribed by CITES requirements (the country’s two-letter ISO code, the last digits of the year of recovery of the horn, and a serial number) as well as the weight of the horn in kilograms. Where funds permit, in addition to the other markings the horns should be micro-chipped with passive transponders (of a type approved by the SADC RESG) and a transponder database should be maintained.

Rhino horn is susceptible to attack by weevils and other pests so it is important that new stock is thoroughly disinfected to avoid contamination of the horn already in stock. The storerooms should be fumigated on a regular basis to ensure that any weevils that infest the storeroom are destroyed before causing significant damage.

Entry into the storeroom should be restricted to a few authorised people, ideally only two. Access into the storeroom by any other people besides those who work in the rhino storeroom must be authorised by senior management of the conservation agency and a record of such authorised entry and purpose thereof must be kept. The storeroom building must be constructed of robust material and should be fitted with a metal door with a combination locking mechanism. A 24-hour guard of armed personnel must be maintained. Adequate lighting must be provided at night to ensure that any movement is easily detected. It is strongly recommended that the storeroom building be fitted with an alarm system.

Further details on how rhino horn should be marked and stored are specified in CITES Resolution Conf. 9.14 (Rev.).

Guidelines on the use of a customized, computerized database for horn stockpile management are provided in a SADC RPRC report (Milledge, 2003).