



MAXIMIZING THE INCENTIVES FOR RHINO
METAPOPULATION MANAGEMENT



SUMMARY OF GUIDELINES FOR: MAXIMIZING THE INCENTIVES FOR RHINO METAPOPOPULATION MANAGEMENT

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There is a range of potential ways in which rhinos can contribute to economic development and biodiversity conservation, depending upon local circumstances and policies. Consumptive use of rhinos (particularly through safari hunting) is a legitimate option in some circumstances.

Wildlife-based enterprises that incorporate rhinos can take place under different tenure systems ranging from state ownership of rhinos to private ownership. Custodianship schemes, at the interface between the state and the private or communal sectors, have often been successful in helping to spread the burden of rhino protection from under-resourced state agencies.

There are pros and cons to the different ways in which rhinos can be conserved and utilised, and the selection of the most sustainable option in an area will require careful consideration of the incentives and capacities that apply to the stakeholders in that particular situation.

Similar reviews of incentives and capacities will apply to case-by-case consideration of options for a range state to help with the restocking of another range state. Outright donations of rhinos from one range state to another must generally be encouraged, but sometimes more businesslike deals may have to be developed.

International donors must be encouraged to support incentives-based approaches to rhino conservation (i.e. rewarding community enterprises or private enterprises that produce more rhinos).

3.1 Utilisation options

Rhinos can be sustainably used in a number of ways – both consumptive and non-consumptive – as follows.

- Live sales (primarily by auction but can be by agreed fixed price). Options also exist for rhinos to be leased for a period; necessary insurances would have to be taken out in such cases.
- Use of rhinos in ecotourism ventures. A southern African wildlife operation that includes rhinos will be regarded by tourists as a more prestigious one than parks without rhinos, even if the rhinos are not easily seen. White rhinos are generally more easily seen by tourists than black rhinos, but in some situations black rhinos come to drink at night at waterholes at tourist camps (e.g. Etosha NP and Addo Elephant NP) and if these waterholes are illuminated with floodlights they become a significant attraction for tourists.
- Limited sport hunting of white rhinos. Currently less than 0.5% of southern white rhinos are hunted each year, mainly in South Africa, and most are surplus males. Numbers hunted are governed by economics and demand rather than quotas. Since sport hunting of white rhinos was initiated on a significant but controlled basis in South Africa in 1968, numbers in the wild have increased from 1,800 to 13,500 by the end of 2005. The fact that numbers in the wild have increased by 650% since sport hunting started clearly indicates that offtake levels have been sustainable.
- Limited sport hunting of surplus black rhinos. The 2004 CITES Conference of the Parties approved an annual hunting quota of five surplus black rhinos for South Africa and the same quota for Namibia, in recognition of the “surplus male problem” (Emslie, 2004). This level of offtake represents less than 0.5% of the population and should therefore be sustainable. It should be noted that the animals to be hunted should be surplus males in breeding populations not just any male black rhino. Criteria used for defining

“surplus” males should be specified and monitoring should be in place to confirm compliance with these criteria. It is crucial that the conditions that are specified for sport hunting of rhinos (e.g. “overstocking”) do not create perverse incentives for rhino owners or custodians to deliberately manage rhinos in ways that tend towards these situations. Leader-Williams et al. (2005) suggest some guiding principles for ensuring optimum conservation outcomes from safari hunting of black rhinos.

- The internal sale of biltong and meat from hunted rhinos (in South Africa, but also potentially in other range states). For CITES reasons this meat is not exported.
- Legal trade in rhino horn and other rhino products such as hides is currently banned under CITES, and would require a quota to be approved with a two-thirds majority at a future CITES Conference of the Parties to become a reality. This is unlikely to happen in the foreseeable future.

Examples of the extent to which rhinos add value to wildlife operations have been researched within the SADC Regional Programme for Rhino Conservation (Spenceley and Barnes, 2005)

3.2 Private ownership of rhinos

Pros of private ownership.

- The sale of rhinos to the private sector can generate substantial funds for state conservation bodies whose budgets may be declining in real terms. For example sales of surplus white and black rhinos in Hluhluwe-iMfolozi Park have for years contributed substantially towards Ezemvelo-KZN Wildlife budgets.
- State-run rhino areas in a country may already be fully stocked with rhino and sales to the private sector can stimulate the necessary increase in range available to rhinos to enable rapid population increases to continue.
- By commercialising rhino conservation, rhinos have been given an economic value which can be used by resource economists

to argue about the economic importance of conservation as a form of land-use. This value can also be referred to in court cases to stress the seriousness of rhino crimes and to motivate for the imposition of stiff deterrent sentences.

- Budgets for many privately-run conservation operations may be significantly higher (per hectare) than in state-run parks, facilitating high-class protection, monitoring and management.
- Private sector involvement can wholly, or in collaboration with the state, fund and assist with the translocation and re-establishment of rhinos in a country.

Cons of private ownership

- Depending upon the nature of contracts entered into, the state will have much less influence over how rhinos are managed when under the ownership of the private sector, rather than being managed on a custodianship basis (see Section 3.3).
- Some private owners may not be interested in participating in regional rhino conservation initiatives.
- Making a profit may be the primary consideration rather than doing what is best for rhino conservation. However, breeding rhinos as rapidly as possible will often achieve both financial and conservation objectives.
- Control of private horn stockpiles has been poor in some cases.
- Rhinos may end up being sold to the highest bidder, not necessarily to the reserve or park with the best potential for future population growth, and sometimes to the detriment of genetic diversity.

3.3 Custodianship schemes

A custodianship scheme refers to a situation where rhinos are allocated to a wildlife operation (which may be a private one, a communal one or even one that is under the control of another wildlife management authority in a different province or state) without transferring ownership of the rhinos to that operation. The question of future rights, such as ownership of

progeny, is dealt with in different ways according to national legislation and policies; in some situations (e.g. in Kwazulu-Natal), a state or provincial rhino management authority might agree to share the progeny of rhinos that are allocated to private sector or communal custodians. In countries where legislation permits private ownership of rhinos, the private owners may sometimes have reason to allocate some of their rhinos according to a custodianship arrangement (for instance, if sale prices are poor or if an owner chooses a deal that shares progeny while retaining a claim on the founder animals). Partial custodianship is another option. In this model the state or private owner may retain ownership only for a defined period (e.g. 20 years), after which the founder rhinos become the property of the custodian. The sharing of progeny could, however, continue.

Pros of custodianship schemes (from the perspective of a state or provincial management authority)

- Rhino range can be increased at no additional cost to the state.
- Rhino populations can grow rapidly after being re-established on custodianship properties or communal land with space to expand.
- By letting private land owners and/or communities bear most of the costs of protecting and monitoring custodianship rhinos, state conservation agencies are able to concentrate their (sometimes limited) resources in their own rhino parks.
- Unlike sales to the highest bidder the state can decide to allocate surplus rhinos to areas with optimum rhino conservation potential (rather than to those that merely have the most money).
- Budgets for many privately-run conservation operations may be significantly higher than in state-run parks, facilitating high-class protection, monitoring and management.
- Private sector involvement can wholly, or in collaboration with the state, fund and assist with the translocation and re-establishment of rhinos in a country.
- If the state agency specifies minimum carrying capacities for areas to receive substantial founder groups of rhino on a custodianship basis, this can act as a catalyst for neighbouring landholders to take

down fences and cooperate to create larger, more viable conservation areas for rhino re-introductions. This process, catalysed by rhinos as the “flagship species”, can create significant opportunities for other aspects of biodiversity conservation and can induce economies of scale in wildlife management.

Cons of custodianship schemes

- Under a straight custodianship scheme, landowners have all the expenses but have a more limited range of utilisation options than if they owned the rhinos.
- Custodianship properties in some countries may not have a large carrying capacity necessitating many small rhino populations fragmented over different properties. This fragmented situation requires expensive and active hands-on management, to prevent inbreeding and overstocking, which a conservation agency may struggle to afford.
- If there are many different and smaller custodianship populations in a country, this may place an additional administrative management burden on a state conservation agency.
- Custodians sometimes argue against necessary rhino management actions such as destocking or dehorning (in the face of a poaching threat) thus creating friction within the national rhino conservation programme. Therefore, the custodianship agreements need to be formally concluded between the parties at the outset of each restocking project and should be very clear about who has ultimate management control.
- Potentially reduced revenues for those state or provincial conservation agencies that are allowed to retain revenues from business activities (as founder animals not sold).

3.4 Conservancy options

Private land owners, or communities on communal land, have formed a number of conservancies. Ideally this has involved the consolidation of a number of smaller areas into one big area (with any internal fencing between properties being taken down). Rhinos have been the catalyst to help develop large

conservancies in Zimbabwe (e.g. Save Valley), South Africa (e.g. Mnyawana) and Namibia (e.g. in the Kunene region).

By cooperating and creating a bigger potential area for rhinos, conservancies may then become eligible to receive black rhinos to manage on behalf of the state (when previously their component areas may have each individually not been big enough to qualify to receive even a small breeding group of rhinos). Donor support can be allocated in ways that exert maximum leverage for the creation of these larger areas, in place of smaller, fenced-off units. The way in which this leverage was exerted during the formation of the large Lowveld conservancies of Zimbabwe is explained by du Toit (1998).

In a straight conservancy arrangement, the landowner has the opportunity to obtain rhinos without having to buy them. Depending on the prevailing land-use, this may or may not have an ecotourism benefit. More recently, in KwaZulu-Natal, a modified form of custodianship arrangement has been developed whereby the founder rhinos remain the property of the state conservation agency that supplied them, for an extended period, but the offspring are shared with the landowner. In this way the state becomes the “owner” of more rhinos and private landowners have an incentive, based on the potential sale of some of the progeny, to breed the rhinos up rapidly.

3.5 Contractual park arrangements (for expansion of rhino range)

Contractual parks can be a win-win option for the state (to increase the size of its national parks), and the private sector or communities (to become part of a larger conservation area). Following negotiations and the signing of a contract between the state conservation authority and the other parties, additional areas can be contractually incorporated into existing national parks (e.g. the Greater Kruger National Park and Greater Addo Elephant National Park). The contract will specify future management practices, requirements and responsibilities (security, monitoring, allowable tourism, sustainable use practices, etc.) on the private/community land, which will then acquire official park status. This mechanism can therefore create additional rhino conservation areas with the highest possible protection under law.

3.6 Opportunities for the private sector to invest in concessions (long-term) on state land

State conservation agencies are ideally placed to offer low-cost or mid-market ecotourism in their parks. Local taxpayers then have the opportunity to visit the parks whose conservation they are partly funding. However, state agencies typically require upper income tourism in some parks (or portions of parks) in order to generate additional revenue for operating costs and to maximize employment.

Regional experience indicates that the state conservation sector is usually not suitably qualified or able to offer upmarket ecotourism of a sufficient standard. Private sector tourism is often more service-orientated than that provided by state conservation agencies. State agencies tend to under-invest in maintenance of tourist facilities. In some countries other issues, such as salaries for state employees being stipulated at higher levels than prevail at equivalent levels in the private sector, may reduce the potential of state-run tourism operations to generate a profit. Developing high-end camps and bush lodges is capital intensive and state conservation bodies may not wish to take a business risk or to incur loan obligations for such developments. In such cases conservation agencies may instead wish to grant concessions to the private sector to build and operate such developments in state national parks and game reserves. Care needs to be taken to ensure that state conservation agencies get sufficient remuneration from such deals while still maintaining investment incentives for the private sector.

One approach, which has been proven in Madikwe Game Reserve, North West Province, South Africa, is to offer exclusive tourist concessions for specific areas of the park which are leased to the company for a specified period. Other parts of the park are accessible by all operators. The selected company then takes on all the risks and costs of building a lodge in its concession area, paying an agreed percentage of turnover (per person per night) to the conservation authority. The conservation agency in turn manages the park and controls entrance of visitors to the park. This arrangement is likely to lead to the flow of much greater funds to the state conservation agency than if that agency had arranged to get a percentage of

the profits (which accountants may have reduced to a low level). Once the lease period expires (40 years), then under the contract the lodge itself becomes the property of the conservation agency who can then lease it back to the company as part of any new lease contract.

Thus park authorities are able to use their wildlife assets to generate additional passive income which can help fund the conservation activities in parks without having to spend any money or take on any risks associated with expensive capital developments. The wildlife authority can also set down building and behaviour standards which have to be adhered to by the company concerned. The advantage of having high-end lodges is that fewer people visit an area creating less impact, waste, etc.; but at the same time creating more service jobs per visitor, and more profit for the conservation agency than lower-end accommodation. This limited lease approach is now also being used in the Greater Addo Elephant Park with ownership of some developments transferring to SANParks in only 20 years.

In other areas some existing tourism facilities have been privatised and are now run by private concessionaires (e.g. the restaurants and shops at Skukuza, Kruger National Park, or security at park entrances) This has resulted in an improvement in standards. In some countries the running of specific parks and reserves may be given out entirely to the private sector.

In terms of rhino conservation, the significance of these private/state joint ventures arises from the potential for the tourist operation to interest its clients in rhino viewing, to thereby generate greater revenues to the benefit of the rhinos and the park as a whole, to assist in rhino monitoring (often linked with walking safaris) and even to invest in rhinos for re-introduction projects. The latter opportunity is well demonstrated in terms of the lease arrangements for the Mombo concession, in Botswana, by Okavango Wilderness Safaris who included support for rhino restocking in their bid for the concession. Such opportunities will depend upon long-term leases (10-15 years) being allocated in order that the operator can derive an adequate return from investment in rhino restocking.

3.7 Possible import incentives for the private sector

Import duties can act as a disincentive for the private sector to import rhinos into a country and governments should therefore consider waiving customs duties in an attempt to facilitate the re-establishment of rhino populations in their country. Provided the basic wildlife laws of a SADC country allow for ownership of wildlife (or at least usufruct and trading rights) by the private sector, the extent to which private owners or custodians can utilize or trade rhinos might be varied by the state management authority to take account of the direct investment that was made in importing rhinos. If, for instance, customs duty was waived then the importer might be subjected to a greater degree of control by the state on the use (particularly consumptive use) of the rhinos and their progeny, compared to the situation where the importer paid full duty and should therefore be allowed to manage the rhinos, as private assets, in a less restrictive way.

3.8 CITES and “Primarily Commercial Purposes”

Any importation of rhinos, particularly by a private sector operation, requires careful consideration of CITES restrictions, especially Article III.3 of the CITES Convention. This article states that CITES import permits for Appendix II and especially Appendix I animals may not be given by the importing country if the animals are imported for “primarily commercial purposes”. However, the definition of “primarily commercial purposes” is supposed to be based on the intended use of the animals (i.e. the principal purpose of the proposed importation), not on the nature of the transaction (i.e. whether or not the proposed importer is a private entity, or whether or not the animals involved in the transaction were purchased from the supplier). The importer would need to show that it intends to undertake well-managed breeding of the rhinos as the principal reason for the importation. Low intensity, non-consumptive tourism (provided this does not develop into the type of intrusive commercial activity that could compromise the breeding programme) can be considered to be a secondary rather than a primary reason for the importation.

The interpretations that may be made of the CITES regulations are complex and potentially contentious, so it would be necessary prior to any importation of rhinos (especially black rhinos) to seek clarification on this matter from the CITES Secretariat, in accordance with the specific circumstances of the intended importation.

An example of a contentious black rhino importation was the acquisition by the Malilangwe Trust of 28 black rhinos in 1998. These were purchased by the Trust from Ezemvelo-KZN Wildlife for importation to the Trust’s property in Zimbabwe. The CITES conditions pertaining to this importation held it up for a long time but the importation eventually went ahead because the Trust clearly committed the rhinos to the Zimbabwean black rhino metapopulation, to be managed strictly in accordance with the national rhino strategy for Zimbabwe. The rhinos were sourced from overstocked populations (such as Ithala GR) that had been performing poorly prior to the translocations. The released animals bred rapidly once released onto Malilangwe and as result after a few years there were significantly more black rhinos than there would have been had this deal not gone through. The buying of the rhinos also generated much needed additional revenue for Ezemvelo-KZN-Wildlife. Clearly this was a win-win scenario for conservation, despite the initial controversy about whether the “primarily commercial purpose” restriction imposed under CITES should or should not be automatically applied to a private sector importation.

At the last CITES CoP, Swaziland asked for and obtained an annotated downlisting of its southern white rhino from Appendix I to Appendix II. The reason for this application was to facilitate sales of surplus rhinos to the main market in neighbouring South Africa. While the Swaziland rhinos remained on Appendix I, because of the “primarily commercial purpose” definition, South Africa was not able to issue the necessary CITES import permits even though the country supported the translocations on conservation grounds.

Some SADC countries and most notably Namibia have attempted (unsuccessfully so far) to moderate this CITES restriction because these countries feel that commercial activities can often be highly advantageous for endangered species conservation,

under enlightened management policies that ensure the appropriate checks and balances for these activities. Further concerted effort needs to be made by SADC rhino range states to agree upon a common position on this issue (along with similar issues related to sustainable commercial use of rhinos) in order to present a logical and united regional position at fora such as CITES CoPs.

3.9 Incentives for rhino breeding within the communal or small-scale commercial farming sector

The ecotourism values of rhinos within community-based ecotourism projects are amply demonstrated in Namibia, have been documented in SADC RPRC reports by Spenceley and Barnes (2005) and Hearn et al. (2004), and are discussed in Section 2.1.1.

For the reasons stated in Section 2.1.1, rhinos of both species are potentially far more compatible with enlightened approaches to low-input land-uses (even in some agricultural areas that include subsistence or small-scale farmers) than is generally appreciated. Since the unplanned settlement of many wildlife ranches during the “fast-track” land reform programme in Zimbabwe, a significant number of black rhinos have survived (although sometimes seriously injured by snares) in patches of thicket between recently cleared fields, and amongst cattle herds. The rhinos show a remarkable ability to adapt to these circumstances, provided they are left with sufficient areas of thicket and access to water, while the communities learn how to avoid dangerous encounters with them. Thus co-existence would undoubtedly be possible provided the rhinos are not poached or snared.

However, the protection of the rhinos by communities can only be assured if there is some economic benefit that arises from the ongoing presence of these animals. This is a very different situation to those Namibian communal conservancies that have well-established tourism operations, based not only on wildlife such as rhinos but also on the wilderness character and scenic attraction of the Namibian desert and semi-desert. In many other communal farming areas of Africa, with typically higher human population densities, lower wildlife densities and less scenic landscapes, ecotourism is not viable. SADC countries,

along with international donor organisations, need to pay concerted attention to production incentives that encourage communities to allow rhinos to survive in these marginal areas and to tangibly contribute to the local livelihoods.

One possible incentive scheme could involve a well-publicized, transparent and closely-monitored system of direct payments for rhinos that are bred within these areas. That breeding effort will not involve significant management costs for the communities (since the rhinos “look after themselves” providing poaching is kept in check), so the payments need not be anywhere near the scale of auction prices for rhinos that prevail in South Africa and could instead be on a scale that is closer to the livestock sale values that are derived by typical subsistence farmers in remote rural areas. This would effectively turn rhinos into a form of minimally-managed livestock, with the management inputs coming from the state agencies or conservation NGOs in the form of monitoring programmes and periodic capture-and-translocation exercises. Considering the global importance of rhinos as endangered species, and considering also the fact that community participation clearly reduces poaching pressures that otherwise require high financial outlays, this production-incentives approach holds promise of cost-effectiveness in terms of the allocation of international conservation funding.

Sometimes the production incentives could come not only from donor funds, but also from sales of the rhinos (sale profits accruing to a well-regulated fund), and sometimes the donor agencies could achieve twin objectives by purchasing the rhinos from a community scheme as a preferential source, in order to restock donor-supported initiatives such as Transfrontier Conservation Areas. The SADC RPRC catalyzed a community scheme of this nature in Save Valley Conservancy, Zimbabwe (du Toit, 2005).

Where communities have land claims within National Parks (such as the Makuleke community adjacent to Kruger NP and the Chitsa community that has invaded Gonarezhou NP), Public- Private/Community Partnerships are appropriate mechanisms to create shareholdings for these communities while retaining the biodiversity conservation role of the contested areas, as outlined in the context of rhino conservation

by du Toit and Mungwashu (2005). In these situations, the rhino production-incentives scheme could also be applicable.

Other options to provide direct incentives to communities for rhino production could be:

- harvesting of horn (through dehorning programmes, which could potentially generate income from darting “safaris”) and the sale of this horn through regulated markets;
- hunting safaris that generate trophy fees from surplus bulls.

Both these potential options are controversial with the first one most unlikely to gain international acceptability in the foreseeable future. However, economic analyses of these options, in the context of rural livelihoods, are certainly worth pursuing in order to ensure that the international debate is better informed and that the potential value of rhinos as “animals for Africa” is more clearly appreciated. Relevant community attitudes were revealed during a community stakeholders’ workshop that was held under the auspices of the SADC RPRC at Palmwag, Namibia, in March 2004 (Hearn *et al.*, 2004).

3.10 Incentives for allocating rhinos to re-introduction projects

The allocation of rhinos by one SADC range state (allocating state), or by an individual rhino management agency within that state, to another (recipient state or agency) can be according to several options:

- as an outright donation;
- on the basis of payment being made for the rhinos at some agreed live-sale price;
- on the basis of an barter arrangement whereby the recipient state exchanges a certain number of animals of another species for a certain number of rhinos, or the recipient state reciprocates in some other way such as the provision of services;
- on the basis of a “rhino investment” scenario.

The rhino investment scenario is potentially a “win-win” option for both recipient and allocating states, and stimulates long-term regional collaboration in the management of rhinos, but it may be the most complicated of the four main options and therefore requires further explanation. The intention in outlining this option is not to suggest that it is necessarily preferable to other options. Indeed, outright donation of the founder stock will always be the simplest arrangement. However, rhino management agencies are answerable to stakeholders within their countries and may have to justify the allocation of rhinos to another country as being more businesslike than a mere gesture of goodwill. In such situations, the rhino investment concept would demonstrate that there can be some return to the allocating country, albeit over the long-term, resulting from the growth of the rhino population in the recipient country.

Under a “rhino investment” scenario the allocating state will retain a right to receive rhinos back from the recipient state in future. This is merely a right for the allocating state to repossess a certain number of these rhinos at some future stage, and there are not necessarily any obligations imposed upon either country regarding capture and translocation costs. These costs will have to be resolved according to relevant funding circumstances that pertain at that future stage.

Rhinos are biological assets that should be invested, sometimes for maximum security and sometimes for maximum growth, just like financial capital. A prudent investment strategy should spread the assets into a range of situations (a “balanced investment portfolio”).

The rhino investment option can be seen as two things:

- for the recipient state, it is a way to source founder stock so that a viable rhino population can be created within that country;
- for the allocating state, it is a way of spreading that country’s investment in rhino breeding options to include external investment, hence providing a form of insurance against catastrophic loss of rhinos within that country, and potentially generating revenue.

The allocating state and the recipient state would basically share the growth rate in the rhinos that are allocated, similar to sharing the financial interest rate on a bank savings account. A balance must be found between the need for the allocating country to achieve a return on this biological investment, and for the recipient country to achieve population growth. For a new rhino population within the recipient country, a growth rate of 5% per annum can be considered to be a reasonable target that will maintain demographic and genetic viability. In fact, growth rates of 8-10% per annum are feasible in well-managed situations, with adequate habitats. Any population increment above 5% per annum could accrue to the allocating country. Thus, if 8% growth rate is being achieved, then the allocating country could have a reclaim of progeny equivalent to 3% per annum.

The period over which the allocating country should receive a return in investment can be finite rather than continuing in perpetuity. A “double your money” deal might, for example, be mutually agreed to be fair, whereby the allocating country can claim progeny until such time as the total number of rhinos that are reclaimed equals twice the number that were originally invested.

Example

Allocating country provides 5 rhinos to a recipient country.

The increase in rhino numbers over time at different population growth rates would be:

| YEAR | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
|--------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|
| At 5% | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 8 | 8 | 9 | 9 | 9 | 10 | 10 | 11 | 11 | 12 | 13 | 13 |
| At 8% | 5 | 5 | 6 | 6 | 7 | 7 | 8 | 9 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 19 | 20 | 22 | 23 |

Thus, with 8% annual growth rate, the allocating state could reclaim 10 rhinos (double the investment) in 21 years, leaving 13 rhinos (which is the number that would have resulted from a baseline growth rate of 5% per annum). Alternatively, some rhinos could be reclaimed earlier (e.g. 5 rhinos after 15 years, see example below) in which case it would take a few years longer for the population to yield the next surplus of 5 rhinos.

| YEAR | 15 | 15 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|
| At 5% | 10 | 10 | 10 | 10 | 11 | 11 | 12 | 13 | 13 | 14 | 15 | 16 | 16 |
| At 8% | 15 | -5 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 19 | 20 | 22 |

The allocating country may prefer a quicker, more regular return, e.g. 1 rhino every 5 years. This scenario may be particularly attractive if sale options are feasible within the recipient country so that this biological “interest rate” can be converted into a financial return.

In practice, founder populations of at least 20 rhinos will be established to meet guidelines for genetic and demographic viability so the subsequent population sizes will be much higher than is indicated in the example above. Therefore the offtakes to yield returns to the various allocating states can be regulated to avoid major fluctuations in the rhino population, and to make any capture and translocation operations as cost-effective as possible.

If the annual growth rate is not above 5% then the allocating country will obviously not achieve a direct return on investment (although if the animals were sourced from poorly performing populations, overall growth in rhino numbers may still be higher than would have occurred if no translocation had taken place). This risk means that:

- the allocating country needs to assess the investment option (habitat, security, management, etc.) very thoroughly before allocating rhinos;
- the allocating country might wish to retain some say in the management of the new population (e.g. be represented on a rhino management committee, to guide major decisions);
- the allocating country should be willing to assist with professional services and other forms of ongoing collaboration to maximize the rate of return on the investment of rhinos;
- the allocating country may want to retain the right to reclaim its founder stock under certain conditions such as sub-optimal performance over a period.

The allocating country may choose not to reclaim its share of the progeny but may instead want these animals to be allocated to another external breeding project, perhaps in another country. At any stage the arrangement might, through mutual consent, be converted partly or in full to one of the other arrangements (donation, purchase agreement or exchange for other assets or services). If the investment is made in a country where live sales of rhinos are permissible, then the allocating country may wish to convert its share of the population growth into a financial return by selling these rhinos within the recipient country (subject to CITES considerations).