



LINKING LIVESTOCK MARKETS TO WILDLIFE CONSERVATION

A Discussion Framework

1. PURPOSE

- a. The African Wildlife Foundation (AWF) www.awf.org is a key stakeholder in, and supporter of, the Ol Pejeta Conservancy (OPC) www.olpejetaconservancy.org. Both its President and Director of Conservation Enterprise hold positions on its Board of Directors.
- b. The AWF is seeking bridging funding of US\$ 350,000, repayable over a 3 year period, to seed the establishment of a revolving fund within the Ol Pejeta Conservancy that will be used to finance the acquisition and trading of community owned livestock within AWF's Samburu Heartland.

2. THE CONTEXT

- a. In Northern Kenya, within which AWF's Samburu Heartland is located, the most significant remaining opportunities for wildlife conservation exist on land that is classified as being semi-arid.
- b. These areas tend to be inhabited by pastoralist communities who depend primarily upon livestock for their livelihoods, and for a number of reasons (the semi-arid context, defunct government marketing infrastructure, lack of efficient access to reliable markets, cultural etc.) are compelled to operate a risk based livestock production and management system. Within this, wildlife can often become a persecuted competitor.
- c. Under these systems very large livestock herds are first accumulated then (massively) depleted by drought. The attendant environmental impact and lost value is significant.
- d. Nevertheless, in recent years, with the support of organizations such as the African Wildlife Foundation (AWF) and the Northern Rangelands Trust (NRT), a number of communities have begun promoting biodiversity conservation through the establishment of wildlife conservancies.
- e. The integrated use of wildlife and livestock by communities in these areas aims to spread the economic and financial risk, reduce vulnerability to stochastic events such as droughts, and increase food-security through supplementary income generation. Clearly this approach holds enormous potential benefits for wildlife conservation and livelihood security.
- f. However, in order to create meaningful habitat for wildlife conservation, livestock numbers need at all times to be kept within acceptable limits. This means that the current risk-based management approaches will need to be changed as a means to ensure the provision of rangelands of sufficient quality to support meaningful populations of wildlife.
- g. However, a critical issue for these pastoralist groups is the lack of readily accessible and equitable markets through which excess livestock can be sold. This partly explains their risk

based approach to herd management and the difficulties that underpin their ability to move to the budget-based approaches that more closely resemble commercial ranching systems.

- h.** Facilitating a conservation-focused transition from *risk* to higher (economic) value, lower volume (environmental impact) *budget* based herd management within and around the emerging system of community owned wildlife conservancies in AWF's Samburu Heartland is the focus of this discussion document.

3. THE OPPORTUNITY

- a.** OPC has developed both a strong focus on community development and a proven track record as one of the premier cattle ranching operations in Kenya, with strong and well developed livestock marketing systems.
- b.** OPC wishes to leverage this combination through its 'Linking Livestock Markets to Wildlife Conservation' program. This aims to promote integrated management of livestock and wildlife among pastoralist communities who are promoting biodiversity conservation on their land by:
 - i.** Linking pastoralist communities with high value markets in the major centres using OPC's existing and well developed marketing and distribution systems, in a manner that is reliable, predictable and commands significantly higher prices¹;
 - ii.** Providing advice and assistance to pastoralist groups to improve the quality of 'product' offered for sale, thereby laying a further foundation for increased cash flows back to them²;
 - iii.** Providing, in partnership with AWF and NRT, advice and assistance to pastoralists groups to implement appropriate stocking rates and sustainable rangeland management systems³;
 - iv.** Providing, in partnership with AWF and NRT, advice and appropriate technologies to enable the establishment of wildlife and livestock integration⁴;

¹ *There will be two areas of engagement in this regard:*

- *OPC will purchase "finished" stock directly from community groups for onward sale either as live animals or after processing through the OPC slaughterhouse.*
- *Over time, it is hoped that community groups will create sufficient institutional capacity to develop their own marketing and distribution systems. OPC will assist in developing distribution and sales connections in this regard.*

² *One of the major obstacles currently facing pastoralist groups in the marketing and sale of livestock is the current poor quality of their product. Through the development of improved selection methods, improved husbandry and, potentially in the future, the introduction of improved genetic material (appropriate for the region), pastoralist communities should be able to increase rangeland productivity as well as the quality of 'product' offered to the marketplace. Whilst easing the marketing process, this may also provide opportunity for reducing stocking rates to the benefit of the range.*

³ *Linked to 2 above, OPC will be in a position to provide advice as regards maximizing rangeland productivity with appropriate stocking rates and grazing regimes/programmes.*

⁴ *OPC has successfully demonstrated its ability to integrate significant wildlife populations (including predators, elephants and black rhinos) with a large and productive cattle operation. Clearly the ability of pastoralist communities to develop livelihood opportunities on the back of successful wildlife conservation will be totally dependent upon their implementing a successful integration process.*

- v. Providing facilities to hold and fatten livestock as a means to hedge normal market fluctuations⁵.
- c. Care will be taken to ensure that the provision of good markets does not simply stimulate the production of greater numbers of livestock for sale, further compounding existing overstocking problems and negating wildlife conservation efforts. Accordingly, a contingent approach will be adopted whereby improved markets will only be provided to communities that, together with AWF and / or NRT have established properly structured conservation focused institutions and resources.
- d. For a variety of reasons OPC is (genuinely) uniquely placed to do this:
 - i. Its capability as a 'value adder' given its livestock processing facility; availability of land for holding and fattening⁶; and its long standing connections within the marketplace.
 - ii. Its connections with the Lewa Wildlife Conservancy (LWC) www.lewa.org, Northern Rangelands Trust (NRT) www.nrt-kenya.org and AWF www.awf.org, all of which are represented on OPC's Board. Within this context, LWC serves as a quarantine holding ground for livestock being moved from Samburu District to OPC in Laikipia District. NRT and AWF both have long standing institutional connections with the local community conservancies that are being established in Laikipia and Samburu Districts that would be the focus of this initiative. Their facilitative engagement with these local communities will be essential in terms of fostering the requisite rangeland management practices and the economic diversification opportunities that it is hoped this project will stimulate.
- e. This is not an untested concept. Indeed OPC has been piloting these principles in partnership with the NRT, LWC and Il N'gwesi Group Ranch (who have been involved in conservation management on their land since 1997) since early 2006.
- f. This has afforded OPC significant practical experience as a means to determine the likely success of the proposed project, as well as the pitfalls that need to be addressed.
- g. Although OPC is a not-for-profit entity as a core principle it is essentially run as a financially self-sustaining operation (essentially a business) i.e. without donor support. Given this context, the pilot has shown that the principal impediment to the development and future

⁵ *In agricultural systems, profitable selling often depends on a producer's ability to delay sales pending times of increased market demand or supply shortage as a means to maximize prices. In a commercial cattle ranching situation this implies well managed cash-flows (perhaps supplemented by alternative revenue generating opportunities such as wildlife tourism) and adequate space and grazing resources – the ability to provide quality forage when other producers can't.*

In traditional pastoralist systems issues of "cash-flow" have probably never been considered particularly important, although with the gradual integration of pastoralist communities into modern "cash economies" this situation is changing – school fees need to be paid on time. Pending pastoralist production methods becoming more commercially aligned, the provision of a reliable market (currently non-existent) is therefore considered of utmost importance.

Issues of space and adequate grazing are critical issues that also need to be addressed. In time (see footnotes 2 & 3 above) this will be achieved by improvements to livestock productivity through better rangeland management and lower stocking rates. In the immediate term (+/- 10 years) OPC will need to be in a position to provide space and forage to excess livestock from pastoralist communities. This will require OPC to: (a) retain constant capacity (from a stocking rate perspective) to accommodate up to 1500-2000 head of pastoralist stock, and; (b) be able to sustain the cash-flow implications of holding large numbers of stock for up to 24 months pending sale

success of the project is the cash-flow implications of purchasing and holding large numbers of pastoralist stock pending sale – hence the proposal to develop a dedicated revolving fund within OPC for financing this.

- h.** Projections show (see further below) that, over a period of 10 years, the provision of US\$ 350,000 in this respect could result in the purchase 20,000 head from pastoralist communities engaged in wildlife conservation at a cost of in excess of US\$ 8 million.
- i.** Critical to this concept is the fact that the financing would theoretically be perpetually sustainable. The initial US\$ 350,000 would be provided as debt repayable in full over a 10 year period at an interest rate of 4%. Thereafter the program would become entirely self funding (and indeed profitable).

4. THE IL N'GWESI PILOT: INITIAL OUTPUTS

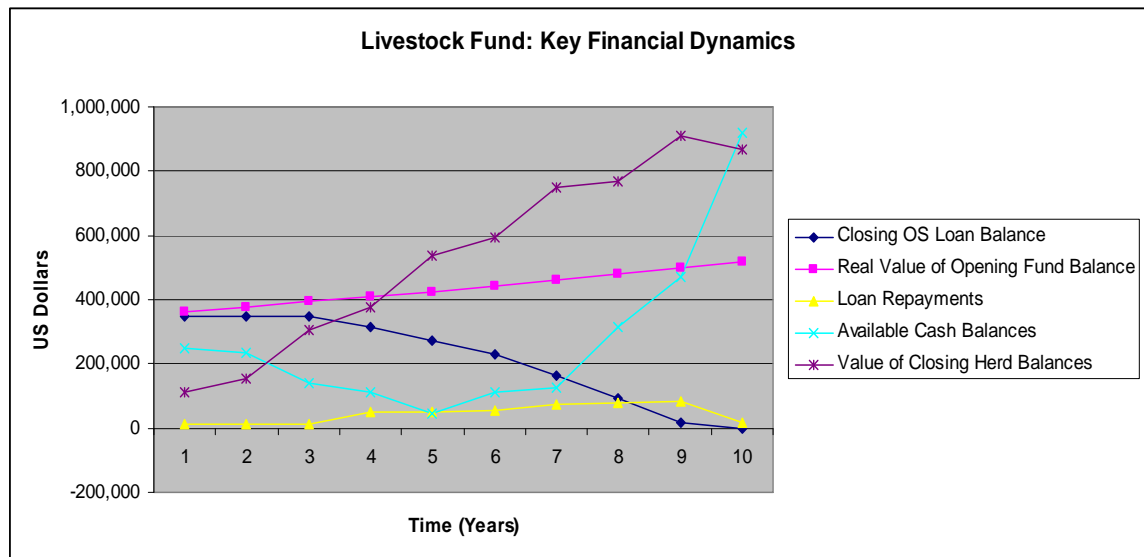
- a.** A total of approximately 600 head of mixed age cattle have been purchased by OPC, of which approximately 350 have been sold either as live animals or through the OPC abattoir. In the process:
 - i.** The Il N'gvesi community has clearly embraced the concept of supplying livestock regularly to a reliable and equitable market; indeed other pastoralist communities have now expressed interest in becoming engaged;
 - ii.** The Kenya veterinary authorities have agreed to allow use of the LWC as a quarantine area and staging post for the mandatory disease testing requirements prior to transfer of cattle into Laikipia;
 - iii.** A process for identifying and marking (with tags) cattle owned at a household level within the Il N'gvesi community has been designed; ultimately this data will be required to monitor total herd size and the financial impact of the project within the community;
 - iv.** To date it is estimated that the prices paid by OPC for Il N'gvesi stock have exceeded traditional markets by up to 30%.
 - v.** Real evidence of improved conservation linkages are emerging:
 - 1. A database of all group ranch members has been created together with the livestock numbers that each own.
 - 2. These livestock are tagged (with barcodes) so that individual cattle can be linked to an individual owner (who is registered as a group ranch member in the database). Only tagged cattle will be traded through this system.
 - 3. Grazing bylaws and livestock husbandry protocols have been developed together with the necessary enforcement procedures. All registered members of the scheme will be required to sign up to these bylaws and protocols.
 - 4. A rural banking facility has been established. Ultimately all livestock transactions will be executed through this facility (thereby eliminating cash from the transaction). So far more than 70% of transactions are being executed through the bank creating a strong foundation for allowing these communities to move to budget as opposed to risk-based decision making.

5. In effect, a tested 'toolkit' has effectively been developed which will provide a strong and practical foundation for efficiently rolling out this framework into other conservancies.
 - vi. Net of costs (purchase, transport, keep), and despite the absence of critical mass and hence economies of scale, OPC has made a return on investment in excess of 10%.
- b. Funding from the Globe Foundation (US) has been secured to:
 - i. Employ and resource a project manager;
 - ii. Oversee the roll out of the database and tagging system;
 - iii. Engage Purdue University (US) and Egerton University (Kenya) to provide applied research into the socio-economic effects (to the Il N'gwesi community), the veterinary aspects (animal health), and the results of changes to rangeland management systems;
 - iv. Further refine and extend the rural banking system to provide a secure and easily accessible repository for cash to the Il N'gwesi community.
- c. In summary, OPC believes that the pilot has demonstrated the fundamental 'workability' of the project. It has developed significant support from third party donors and academic institutions as well as, most critically, the community themselves.
- d. However (and as expected) cash-flow issues within OPC (particularly given the current political and economic content in Kenya which have heavily impacted its tourism inflows) have presented themselves as the principal impediment to the future development and success of the project, highlighting the need for a dedicated financing facility to perpetuate and develop it.

5. FINANCIAL DYNAMICS

- a. An illustrative cash flow model has been provided in the table below. It should be noted that there are a number of variables which will effect how this project would play out over a ten year period (weather, disease, markets etc.). Accordingly, the timing and volume of trading under this model is likely to vary. The key is that the financial dynamics are capable of being flexible in this regard – which they are:

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	TOTALS
OPENING CASH BALANCES	350,000	251,100	233,800	139,819	113,378	46,005	113,035	124,664	312,664	471,841	
Number of community cattle purchased	1,000	1,000	1,500	1,500	2,000	2,000	2,500	2,500	3,000	3,000	20,000
Average purchase price per head	235	259	284	313	344	378	416	458	504	554	
TOTAL LIVESTOCK PURCHASES	235,000	258,500	426,525	469,178	688,127	756,940	1,040,792	1,144,871	1,511,230	1,662,353	8,193,516
Transportation Costs	14,700	16,170	26,681	29,349	43,045	47,349	65,105	71,615	94,532	103,985	
Maintenance Costs	28,500	50,160	57,475	83,454	91,799	122,399	131,273	166,615	175,131	224,005	
Mortality Costs	4,700	5,170	8,531	9,384	13,763	15,139	20,816	22,897	30,225	33,247	
TOTAL OPERATING COSTS	47,900	71,500	92,686	122,186	148,606	184,887	217,193	261,128	299,888	361,238	1,807,212
Number of cattle sold	600	900	1,100	1,400	1,700	2,000	2,300	2,600	2,900	3,200	18,700
Average sales price per head	330	363	399	439	483	531	585	643	707	778	
TOTAL LIVESTOCK SALES	198,000	326,700	439,230	614,922	821,360	1,062,937	1,344,615	1,671,999	2,051,414	2,489,993	11,021,170
Loan Repayments	14,000	14,000	14,000	50,000	52,000	54,080	75,000	78,000	81,120	17,684	449,884
TOTAL FINANCING COSTS	14,000	14,000	14,000	50,000	52,000	54,080	75,000	78,000	81,120	17,684	
CLOSING CASH BALANCES	251,100	233,800	139,819	113,378	46,005	113,035	124,664	312,664	471,841	920,559	
Closing Livestock Numbers	400	500	900	1,000	1,300	1,300	1,500	1,400	1,500	1,300	
Closing Loan Balance	350,000	350,000	350,000	314,000	274,560	231,462	165,721	94,350	17,004	0	



b. The model assumes the following:

- i. OPC will be lent US\$ 350K at a rate of 4% interest (designed to match the US\$ growth value of cash) repayable over a 10 year period.
- ii. A 10% inflation rate has been applied to all Kenya Shilling costs i.e. livestock purchase and sales prices; transport costs; maintenance costs etc.
- iii. A mortality rate of 2%.

c. The model demonstrates the following financial dynamics:

- i. Over the 10 year period 20,000 head of livestock will be purchased from the community at a total value of more that US\$ 8 million.

- ii. OPC itself will incur a further c. US\$ 2 million in operating and mortality costs generating sales of c. US\$ 11 million giving an overall operating profit of c. US\$ 1 million (c. 9%) but also building up a critical mass of trading stock worth a further c. US\$ 850K.
- iii. Cash available in the revolving fund will sink to just c. US\$ 45K in Year 5 but increase past the real value (assuming US\$ inflation of 4% (equal to the interest rate)) of the opening balance in Year 9 and thereafter generate considerable growth in the underlying value of the fund. This will create considerable options for OPC either to scale up the level of these trading volumes beyond the 3,000 per year level it will have reached in Year 10 or using these funds to support further community development projects both around its own boundary and within the community conservancies with which it has built up a trading relationship.
- iv. During the first 3 years only interest will be repaid at US\$ 14K per annum (i.e. 4%). During the next 3 years interest and principal will be repaid at a base level of US\$ 50K (increasing by 4% per annum) and in Year 7 this will be increased to a base level of US\$ 75K per annum with the entirety of the loan and interest being repaid in Year 10 although an accelerated repayment could be achieved in the early part of Year 9.
- v. To some extent it could be argued that this is not dissimilar to a forestry model; significant investment costs being required in the early years to build up a critical mass of trading stock and trading cycle momentum; followed by a period of tight operating cash flow while the financing costs (debt) are relieved; followed by a build up of significant profitability in Year 8 onwards.

6. BENEFITS

- a. **Collaboration:** Creates a unique collaborative platform for bringing together local communities, the private sector, a variety of conservation NGOs, local and international educational and research establishments under a single project.
- b. **Leverage:** A rare example of a single enterprise deal being capable of impacting a wide variety of communities that steward multiple and very large areas of land. Furthermore, once the fund has developed critical mass; financial independence (i.e. debts repaid) and profitability, considerable resources will be created for supporting further related or unrelated community development projects across these areas.
- c. **Sustainability:** A truly sustainable conservation enterprise intervention. The entire project can be financed with debt (charged at an interest level that matches commercial cash returns) to develop an operation that can be both sustained *and* grown at a profit (theoretically) into perpetuity.
- d. **Relevance:** Targets a critical and large-scale conservation issue for wildlife conservation in semi arid savannah systems.
- e. **Development Responsibility:** Fosters financial risk diversification within these emerging community conservancies. Tourism is a critical tool, but (as current contexts amply demonstrate) it is highly subject to unmanageable external risk factors. Accordingly conservation initiatives need to be supported by a wider portfolio

of enterprise interventions. It is nevertheless complimentary to any tourism development agenda.

- f. **Popularity:** Likely to enjoy considerable political and popular support. This will negate traditional barriers to entry associated with 'unfamiliar' conservation innovations.
- g. **Scalability:** As the financial model demonstrates it is capable of being scaled up very considerably (particularly if Eland Downs was acquired).
- h. **Risk Management:** Once critical trading mass has been established the model can be varied to cater for fluctuations in market, climatic, disease etc. conditions.

7. POTENTIAL CHALLENGES

- a. Translating this commercial partnership in enhanced rangeland management and conservation development within the community lands; and avoiding the risk of the additional earned revenue simply catalyzing the purchase of even more livestock, with the attendant negative environmental impact. This has been the focus of the pilot with Il N'gwesi and emphasizes the importance of working only with communities that have established functional, conservation-focused institutional governance arrangements, and ideally have relationships with, and enjoy the ongoing support of, professional conservation organisations such as the AWF and NRT.
- b. Availability of sufficient holding grounds to finish pastoral cattle. At present OPC has more than enough land in this regard and could process the 3,000 head envisaged by the model above. However, were these operations to be significantly scaled up this could become a challenge. The acquisition of Eland Downs would offset this but it is nevertheless likely that additional quarantine facilities (over and above LWC) would be required for livestock being moved to OPC and into Laikipia from Samburu.
- c. A potential perverse consequence would be that as the organisational and institutional capacity of community groups to source and leverage new markets is increased, trading relationships are created with new buyers who will not require conservation contingent production criteria. This could potentially be addressed by developing a parallel certification and marketing initiative.
- d. Major and sustained outbreaks for disease (particularly CBPP and FMD) within the community areas stalls or prevents trading momentum. This will be offset (but not eliminated) over time by improvements generated in livestock husbandry as part of this initiative.

8. SUMMARY PROPOSAL

- a. AWF is in the process of refining a concept for a Conservation Enterprise Fund (CEF) for Africa. It is planned that this fund will provide debt (possibly twinned with grant) finance to facilitate the development of such enterprises in line with AWF's overall integrated conservation development strategy across its network of Heartlands.
- b. The OPC 'Linking Livestock Markets to Conservation' program fulfills all the envisaged investment criteria for this proposed fund and accordingly, given that the CEF has yet to be launched, AWF is seeking bridging finance of US\$ 350,000 for a maximum

period of 3 years to consummate the development of the proposed revolving fund within OPC.

- c. This finance will be repaid in full within the 3 year period by AWF using capital that it will raise to formally launch the CEF. In effect therefore, the OPC Revolving Fund will become the CEF's first debt investment and returns generated thereon and thereafter will be used to finance the development of other conservation enterprise projects within AWF's and the CEF's spheres of focus.
- d. Accordingly, this entire arrangement will generate further conservation development leverage above and beyond that which is being generated by the revolving fund concept itself.
- e. AWF will guarantee these monies to its lender but will itself 'reinsure' this guarantee by seeking to secure its debt within OPC (probably on OPC's own livestock herds which are currently valued at in excess of US\$ 1.5 million).
- f. AWF will establish a dedicated internal management committee, headed by the Director of Conservation Enterprise that will oversee the disbursement and management of the loan to OPC. Precise arrangements in this regard require further discussion.