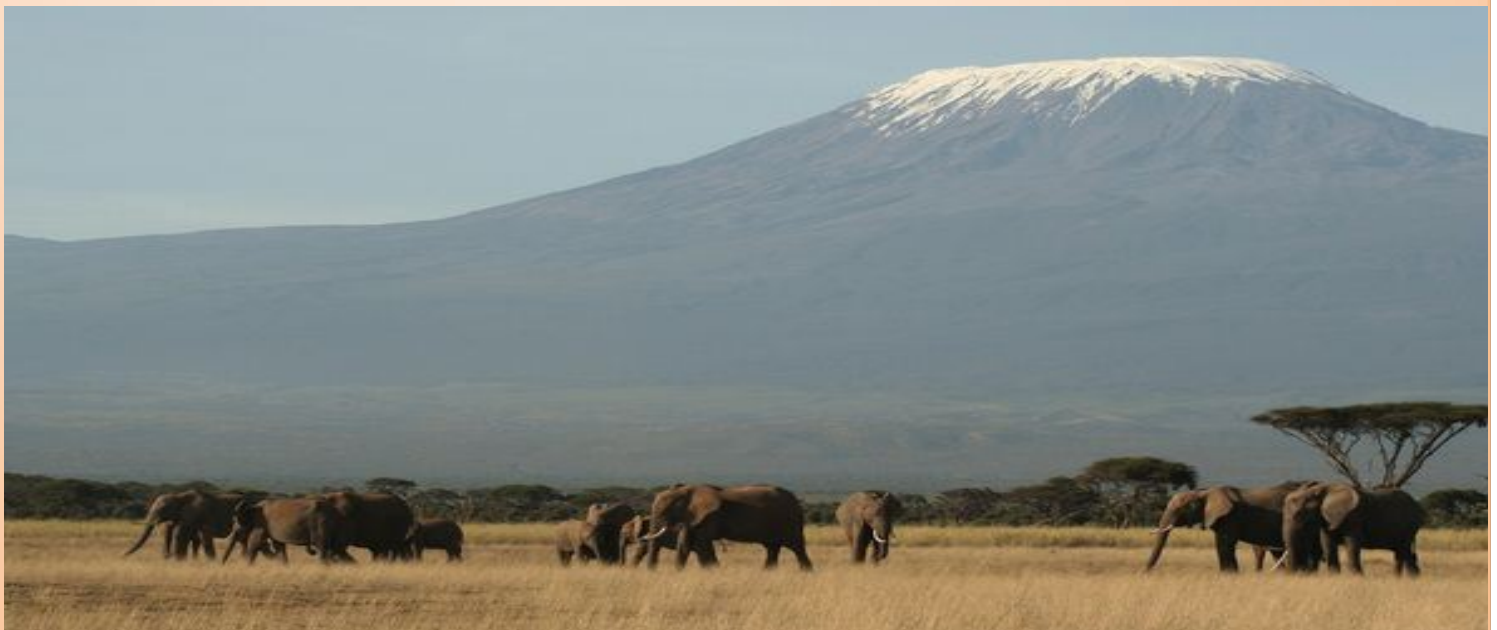


“FINAL REPORT FOR THE STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) FOR THE AMBOSELI ECOSYSTEM MANAGEMENT PLAN, 2008-2018”

(PLAN SEA)

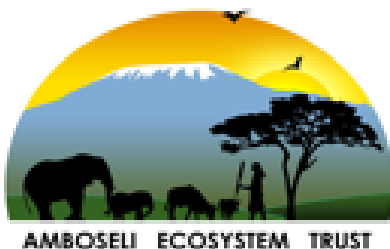


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**Strategic Environmental Assessment (SEA) for the Amboseli Ecosystem Management Plan, 2008-2018
was undertaken by the following consultants:**

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DOCUMENT AUTHENTICATION

I, **Dr Francis Mwaura** of Habitat Planners & Environmental Consultants, submit the following Draft Strategic Environmental Assessment (SEA) Report for the Amboseli Ecosystem Management Plan (2008-2018), with approval by Habitat Planners. The SEA study was carried out according to the Environmental Management and Coordination Act, 1999 and the 2012 National Guidelines for Strategic Environmental Assessments in Kenya.

To my knowledge, all information contained in this report is accurate and a truthful representation of all findings as relating to the SEA.

SIGNATURE: **DATE**

DR FRANCIS MWAURA
PRINCIPAL ASSOCIATE CONSULTANT
HABITAT PLANNERS
REGISTERED EXPERT (NEMA - 77)

SIGNATURE: **DATE:**

BENSON N. LEIYAN
MANAGER
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LIST OF ABBREVIATIONS

ABR	Ambosemi Biosphere Reserve
ABRP	Ambosemi Baboon Research Project
ACC	African Conservation Center
AE	Ambosemi Ecosystem
AEMP	Ambosemi Ecosystem Management Plan
AERP	Ambosemi Elephant Research Project
AET	Ambosemi Ecosystem Trust
AEMP	Ambosemi Management Plan
ANP	Ambosemi National Park
ARCP	Ambosemi Research and Conservation Programme
ASALs	Arid and Semi-Arid Lands
ATE	Ambosemi Trust for Elephants
ATGRCA	Ambosemi/Tsavo Group Ranches Conservation Association
ATGSA	Ambosemi Tsavo Game Scout Association
AWF	African Wildlife Foundation
BR	Biosphere Reserve
CBD	Convention on Biological Diversity
CBO	Community Based Organization
CDM	Clean Development Mechanism
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMS	Convention on Migratory Species
CRC	Conflict Resolution Committee
DFZ	Disease Free Zone
EA	Environmental Audit
EIA	Environmental Impact Assessment
EMCA	Environmental Management and Coordination Act
ESAs	Environmentally Significant Areas
GDP	Gross Domestic Product
GoK	Government of Kenya
GR	Group Ranch
HEC	Human Elephant Conflict
HWC	Human Wildlife Conflict
IBAs	Important Biodiversity Areas
IFAW	International Fund for Animal Welfare
IUCN	International Union for the Conservation of Nature
KFS	Kenya Forest Service
KWCA	Kenya Wildlife Conservancies Association
KWS	Kenya Wildlife Service
LAU	Limits of Acceptable Use
MAB	UNESCO Man and Biosphere Program
MDG	Millennium Development Goals
MOU	Memorandum of Understanding
MPT	Maasailand Preservation Trust
NEMA	National Environment Management Authority
NGO	Non-Governmental Organization
PAPF	Protected Area Planning Framework
PAs	Protected Areas
PEIA	Plan Environmental Impact Assessment
PPP	Policies, Plans and Programmes
SEA	Strategic Environmental Assessment
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
WCA	Wetland Conservation Areas
WPU	Wildlife Police Unit
WRMA	Water Resource Management Authority

NON-TECHNICAL EXECUTIVE SUMMARY

1. BACKGROUND

According to the Environmental Management and Coordination Act (EMCA, 1999), the management planning for all development activities in important biodiversity areas (IBAs) should ideally be approved under their appropriate legislation. The central legislation that is the bedrock for environmental protection in Kenya is the Environmental Management and Coordination Act (EMCA, 1999) which is the umbrella legislation that takes precedence over other sectoral legislation in environment. EMCA (1999) provides the National Environment Management Authority (NEMA) with powers to approve or disapprove major developments in IBAs including wildlife conservation areas based on proper planning and assessment of environmental impacts (GoK, 1999b). NEMA is therefore the lead authority spearheading the process of assessing, approving and gazetting management plans in sensitive environments.

In 2004, NEMA and other relevant lead agencies such as Kenya Wildlife Service (KWS), Kenya Forest Service (KFS) and Water Resources Management Authority (WRMA), the community and other stakeholders such as Local Administration, Amboseli/Tsavo Group Ranch Conservation Association (ATGRCA), hoteliers and environmental NGOS including African Conservation Center (ACC), African Wildlife Foundation (AWF), and International Fund for Animal Welfare (IFAW) supported the development of a Management Plan for the Amboseli Ecosystem pursuant to Section 50 (d), (e) and Section 54 of the Environmental Management and Coordination Act (1999). Consequently the Amboseli Ecosystem Management Plan (2008-2018) was developed using the Protected Area Planning Framework (PAPF) through stakeholder consultation in an all-inclusive process.

2. AMBOSELI ECOSYSTEM MANAGEMENT PLAN (2008-2018)

The 10-year management plan was developed through a collaborative effort involving a wide array of stakeholders including; KWS, ATGRCA, AWF, ACC, IFAW, Amboseli Trust for Elephants (ATE), the School for Field Studies (SFS), Government Ministries and the then Oloitokitok/Kajiado District administration. The planning process was initiated in November 2004 as a follow up to the recommendations of the Amboseli Stakeholders Workshop held in February 2004, which among other things created several task forces aimed at addressing natural resource management issues within the ecosystem, among them, management planning.

The specific aim of the plan is to maintain Amboseli Ecosystem (AE) diversity and ecological resilience, conserve the ecosystem including threatened species and habitats, and especially the charismatic elephants, expansive swamps, and promote sustainable development of the ecosystem for the benefit of the present and future generations. Specific objectives of the plan are to: - a) maintain wildlife seasonal movements across the entire ecosystem which are essential for sustaining large herds and their resilience in the face of rainfall patchiness coupled by recent localized climate variability disease and predation, b) promote partnerships with the local communities in the ecosystem by enhancing equitable sharing of the benefits derived from natural resources, c) promote sustainable tourism in the ecosystem, and d) provide research and conservation educational opportunities.

The plan outlines specific management programmes and action plans that if implemented, wildlife conservation values and quality of life for the people in the area will be improved significantly. The five (5) management programmes in the plan are: a) Ecological Management, b) Tourism Development and Management, c) Community Partnership and Education, d) Security and e) Ecosystem Operations. Each programme contains management objectives that set out the goals that the AE management aims to achieve, and a set of specific management actions to achieve these goals. In order to facilitate the plan implementation, the management programmes have been aligned with the KWS organizational structure as the lead conservation lead agency in the area. In addition, each of the management programmes has a 3-year Activity Plan, which breaks down the individual management actions into day-to-day management activities that were to be implemented in the first three years of the plan period (2008-2011) after which regular reviews would be undertaken. The first 3-year activity plan (2008-2011) formed the key focus of the

Plan SEA as an Ex-Post Evaluation. Detailed insights on the purpose of each of the five management programmes are elaborated below.

2.1: Ecological Management Programme

This programme is supposed to ensure that the ecological components and processes that shape and sustain the Amboseli Ecosystem are clearly understood, sustainably managed and threats to the key ecological functions are minimized. In the first 3 year activity plan, the programme had 4 key objectives, 20 actions and 53 activities. The 4 objectives were: a) securing critical wildlife dispersal areas, corridors and habitats, b) sustainable management and protection of swamps and river systems in collaboration with stakeholders, c) conservation of threatened large mammal species including: - i) elephants ii) large predators, d) the black rhino, and e) ecological monitoring and research information dissemination.

2.2: Tourism Development and Management Programme

Essentially, this programme is aimed at developing high quality and sustainable tourism that optimizes benefits locally and nationally within agreed limits of acceptable use. In the 2008-2011 activity plan the management plan had 4 objectives, 21 actions and 49 activities. The four objectives were:- a) sustainable development and management of tourism in the Amboseli Ecosystem, b) enhancing the delivery of tourism returns to the locals, c) diversification of tourism in the ecosystem including visitor experience in order to boost visitor satisfaction, and d) promoting and marketing tourism in the region so as to attract high end local and international tourists.

2.3: Community Partnerships and Education Programme

The programme is intended to encourage and inculcate a culture for sustainable livelihoods and conservation and management of wildlife outside Amboseli National Park, mainly on community owned land. The programme has 4 objectives, thirty four (34) actions, and 83 activities. The 4 objectives were:- a) opening up and maintaining wildlife dispersal areas around Amboseli NP and critical linkages to local and cross-border conservation areas such as Tsavo and Kilimanjaro National Parks, b) reducing human-wildlife conflict in community areas to minimum levels, c) ensuring that community benefits from natural resources are diversified and shared equitably, and d) improving and enhance livestock production so as to enhance community livelihoods.

2.4: Security Programme

The purpose of this programme is to ensure that the Amboseli Ecosystem wildlife and visitor security is enhanced and sustained through close collaboration with all the stakeholders. The programme had 3 objectives in which 10 actions and 20 activities were to be carried out. The three objectives were: - a) enhancing security operations for the protection of AE's wildlife resources, b) improving the effectiveness of natural resource protection, and c) enhancing security of visitors, KWS staff, and KWS assets.

2.5: Ecosystems Operations Programme

The main thrust of this programme is to improve service delivery by KWS staff and conservation partners within and outside the Amboseli National Park. It also targets to improve relationships with stakeholders, KWS staff welfare and infrastructure development and management for the overall purpose of enhanced AE management as the national lead conservation agency in the region. The programme has 3 objectives, 23 actions, and 44 activities. The three objectives were: - a) formalizing and strengthening institutional collaborations, b) improving the welfare and performance of KWS staff, and c) enhancing AE management infrastructure.

3. RATIONALE FOR UNDERTAKING A STRATEGIC ENVIRONMENTAL ASSESSMENT FOR THE AMBOSELI ECOSYSTEM MANAGEMENT PLAN (2008-2018)

The National Environment Management Authority (NEMA), in consultation with other relevant stakeholders including the Amboseli Ecosystem Trust (AET) declared a one-year Moratorium for all proposed development activities within the Amboseli Ecosystem until the management plan was gazetted prior to which a Strategic Environmental Assessment (SEA) was to be undertaken. The moratorium was arrived at after a consultative forum attended by various stakeholders from lead agencies who included; NEMA, AET, ATGRCA, KWS, KFS, WRMA, Olkejuado County Council, Ministry of Regional Authorities, Attorney General's Chamber, Kenya Investment Authority, Ministry of Tourism, AWF, members of the local community among others. This decision took into account social-cultural, economic, physical, and ecological processes within the ecosystem, guided by the national spatial planning objectives, integrated assessment and the other principles upon which the provisions for Strategic Environment Assessment (SEA) are based.

The moratorium came to effect from 28th February 2013. The implication of the moratorium was that NEMA and all other relevant lead agencies shall not issue requisite licenses for any new or proposed developments or projects as listed in the Second Schedule of the EMCA (1999) until the entire management plan has been gazetted so that it can serve as a regulating instrument for development activities in the ecosystem. The moratorium was to be in place for a period of one (1) year or until the Amboseli Ecosystem Management Plan that was properly evaluated through a consultative SEA and legally gazetted.

4. OBJECTIVES FOR THE STRATEGIC ENVIRONMENTAL ASSESSMENT

The following key objectives were identified for the SEA based on the Client Terms of Reference as well as the requirements of the 2012 National Guidelines for SEA in Kenya:

- a) Assessing the level of integration of the AEMP with existing environmental policies and legal frameworks.
- b) Evaluating whether the proposed activities in the Amboseli Ecosystem Management Plan (AEMP) are compliant with EMCA (1999) and its regulations, and establish suitable mitigations for any negative impacts.
- c) Assessing the level of integration of the AEMP with other relevant national plans and strategies.
- d) Determining whether the AEMP is compliant with trans-boundary, regional and international environmental frameworks, and
- e) Collating stakeholders' inputs on the long term environmental gains and implications of the AEMP.

5. SEA APPROACH AND METHODOLOGY

The following systematic chain of broad activity clusters were adopted in the SEA implementation:-

1. Orientational consultations with the client
2. Screening and scoping of issues to be considered in the SEA
3. Documentary analysis for the preparation of a comprehensive PPP framework for the SEA
4. Preparation of a PPP Brief and submission of the same to NEMA for approval
5. Field reconnaissance and stakeholder identification.
6. Preparation of screening and scoping report and ToR for submission to NEMA
7. PPP integration assessment of the 5 AEMP programmes
8. Field missions for baseline situation analysis
9. Stakeholder consultations and public participation
10. Plan environmental impact analysis
11. Impact mitigation planning
12. Identification of gaps and alternatives actions
13. Preparation of an Environmental Management and Monitoring Plan (ESMP)
14. Presentation of findings and stakeholder dialogue
15. Compilation, validation and submission of final SEA report

5.1: PPP framework

A comprehensive PPP framework was developed for the SEA comprising the following instruments: - a) trans-boundary frameworks for cross-border issues in the area, b) international frameworks for the global obligations associated with the Amboseli Ecosystem, c) national environmental policies, d) national legal frameworks, and e) national strategic plans. A total of 53 environmental PPP instruments were identified and considered as relevant for integration by the AEMP. These included 3 regional environmental frameworks, 9 MEAs, 15 national environmental policies, 13 national environmental legal frameworks and 13 national strategic plans. A total of 356 environmental obligations were identified in the 53 PPPs. The integration of 53 PPPs in the AEMP was used as the basis for the PPP analysis.

5.2: PPP analysis

This analysis involved a counter check of all the 250 proposed activities in the AEMP (namely 54 activities in the Ecological Management Programme, 49 activities in the Tourism Development and Management Programme, 83 activities in the Community Program, 20 activities in the Security Program, and 44 activities in the Ecosystem Operations Program) against the 356 environmental obligations in the 53 obligatory PPPs identified for the SEA process. The environmental obligations which were not effectively integrated in the plan activities were considered as PPP gaps. Additionally, the level of integration to environmental PPPs was calculated numerically in terms of the percentage of the obligatory PPP issues which had been effectively integrated in the programme activities.

5.3: Baseline situation analysis

The baseline situation analysis was undertaken through a comprehensive ground inspection conducted in the Amboseli Ecosystem between October 21 and 26, 2013. The inspection considered most parts of the ecosystem which were accessible through drive-through-transects including the following; a) Amboseli National Park, b) Loitokitok-Kuku-Kimana-Namelok, Endoinet-Elerai-Kitengen, c) Mbirikani-Chyulu, d) upper part of Rombo, e) Kimana area including the Kimana Sanctuary and neighbouring group ranches and wildlife barrier fence, and (f) Loitokitok Airstrip-Tsavo transect up to Itital. The drive-through-transects were undertaken by the consultants accompanied by various local key informants who were thoroughly conversant with the area and current environmental issues. The baseline situation analysis was focused on the key issues associated with the various objectives contained in the five programmes in the AEMP. The baseline situational analyses as well as the field reconnaissance undertaken at the beginning of the SEA process were used as platforms for preliminary stakeholder analysis and subsequent stakeholder consultation.

5.4: Stakeholder engagement, consultation and participation

Stakeholder consultations for the AEMP SEA were undertaken between 13th and 19th October 2013 through direct interactions with different ecosystem stakeholders as identified during the orientation field mission and baseline situation analysis. The scope for the interactive consultations involved the following stakeholder clusters:- Government officers and Parastatals, KWS Amboseli National Park Management, Group Ranches and Conservancies, Environmental NGOs, private sector, agricultural communities (mostly through the WRUAs), urban stakeholders especially in Kimana town, Isinet and Namelok with special interest on urban developers and peri-urban dwellers. The consultation also considered some cross-border stakeholders in Tanzania mostly through email.

5.5: Plan environmental impact analysis (PEIA)

The PEIA was undertaken using 5 environmental impact categories, namely: a) physical impacts, b) biological impacts, c) social impacts, d) economic impacts, and e) institutional and trans boundary impacts, international implications and public interest. The five were analyzed through 22 environmental indicators and targets which were identified mostly from the information and realities on the ground as gathered during the baseline situation assessment. Impact characterization was undertaken by considering the following attributes:- a) level of impact (ecosystem-wide, group ranch centred or in Amboseli National Park), b) probability and risk of occurrence, c) duration of impact, d) magnitude, e) impact reversibility, and f) level of importance.

6. FINDINGS

6.1: PPP obligations and integration status

The findings of the PPP analysis showed that the Amboseli Management Plan (2008-2018) had an overall integration level of 50.3%. This was considered as a satisfactory level given that most of the environmental obligations in question were associated with recently introduced PPPs that came to effect when the AEMP was already in place. Out of 53 PPPs with 356 obligations a total of 135 non-integration were identified. Consequently, the AEMP had an overall non-integration level of 49.7% which was approximately 50% and the overall level of integration and non-integration therefore reflected a 50-50 status. The overall status of the AEMP in terms of non-integration to the PPP environmental obligations showed that the highest non-integration was in the Ecological Management Programme at 31.6%, followed by the Ecosystem Operations Programme at 30.4% and Community Partnership and Education Programme at 22.4% while the better integrated were the Security Programme (3.4%) followed closely by the Tourism Development and Management Programme (12%).

6.2: Potential impacts and mitigation measures

The findings showed that the AEMP was dominated mostly by positive impacts in all the 5 programmes. It had very few negative impacts. Out of 250 plan activities only 27 were found to have potential negative impacts which translated to only about 10.8% of the entire management plan. The programmatic breakdown of the 27 plan activities with a potential for negative environmental impact are as shown below.

Summary of programme activities with a potential for negative impact in the management plan

Programme	Number of plan activities with a potential for negative environmental impact
Ecological management	3
Tourism development and management	5
Community development and outreach	5
Security	7
Ecosystem operations	7

The key potential negative impacts and the recommended mitigation measures are highlighted below.

a) Ecological Management and Tourism Development Programmes

Potential Impact	Proposed mitigation
1. Social impacts of charcoal trade ban on community livelihoods and poverty reduction	Enforce the Forest Act (2002) Charcoal regulations
2. Impact of construction of wildlife watering points on resource conflict	Restrict the construction of wildlife watering points in Amboseli National Park and Community Conservancies
3. Impact of the construction of the Visitor Centre on range environment in Amboseli National Park	Undertake pre-project EIA and subsequently conduct regular EA after commissioning the Visitor Centre
4. Impact on range environment from construction of walking trails at Imerishari and Kitirua Hills	Undertake pre-project EIAs
5. Impact on climate change mitigation from construction of walking trails at Imerishari and Kitirua Hills	Undertake pre-project EIAs
6. Impact on range environment of developing and marketing tourist Bandas at the Losikutok conservation area in Mbirikani group ranch	Undertake pre-project EIA and subsequently conduct regular EA after commissioning the Bandas
7. Impact on the range environment of establishing and operating community tourism Bandas in Ologulului/Olorarashi group ranch	Undertake pre-project EIA and subsequently conduct regular EA after commissioning the Bandas

b) Community Partnership and Education Programme

Potential Impact	Proposed mitigation
1. Impact of rehabilitation of Namelok and Kimana wildlife barrier fences	Evaluate the impact of the fence and carry out regular monitoring and EA
2. Impact of supplying adequate water to the dry season grazing zones	Undertake pre-project EIA and conduct regular EA
3. Impact of re-establishing gazetted livestock holding grounds in Loitokitok Sub County and improvement of support infrastructure in the livestock markets	Undertake pre-project EIA and conduct regular EA
4. Impact of constructing slaughter houses in the Amboseli ecosystem	Undertake a project feasibility study; ensure the local pastoralists have share in ownership of the slaughterhouse; engage competent slaughterhouse managers
5. Impact of establishing a livestock Disease Free Zone(DFZ)	Undertake pre-project EIA and conduct regular EA

c) Security Education Programme

Potential Impact	Proposed Mitigation
1. Impact of cross border wildlife security measures on the social environment	Ensure community participation in the implementation of joint security trans-boundary initiatives through their local and village leaders
2. Deployment of adequate intelligence staff on public interests	Integrate wildlife and ecosystem security committees with county administration and security systems
3. Deployment of adequate security to KWS facilities on land degradation	The AEMP should be very clear on land use and zoning so as to avoid conflicting land uses in one location and to avoid the devaluation of the tourism products by spinoff enterprises around the KWS gates, outposts and offices

d) Ecosystem Operations and Management Programme

Potential impact	Proposed Mitigation
1. Impact of establishing a small medical laboratory at the Amboseli Health Clinic	The health clinic should eventually be served with an incinerator
2. Impact of construction of staff houses and additional offices to house research and procurement sections	All future office and staff residences should be located outside the park in order to reduce the environmental footprint
3. Impact of developing tourist roads outside the park	The roads should be designed with appropriate environmental considerations and barriers manned by community game scouts in order to reduce the secondary negative impacts to conservation and tourism
4. Impact of rehabilitating the former staff canteen and conversion into a boarding facility for children from Amboseli Primary School'	Land use zoning to determine the most appropriate locations of essential services in the AE
5. Impact from the provision of adequate water at the gates on protection of wildlife corridors and threatened species	Water supply at the gates should be restricted to the ANP water needs and the area gazetted as non-development areas with dis-incentives for potential business investors
6. Impact of constructing a gate at Kitirua entry point on protection of threatened species	Kitirua area should be zoned as a high end tourism with restriction to mass tourism so as to reduce the visitor impacts and retain it as a buffer zone

7. PROPOSED ENVIRONMENTAL MANAGEMENT AND MONITORING PLAN

An elaborate Environmental and Social management and Monitoring Plan (ESMP) is provided in the SEA report for the use in the implementation of the management plan. The ESMP contains the following: a) specific

management and monitoring actions to address the recommended alternative options from the PPP analysis and mitigation measures emanating from the plan environmental impact analysis, b) recommendations on the monitoring frequency and indicators for each management action, c) the environmental management and monitoring standards, d) roles and responsibilities, and e) relevant implementation guidelines.

8. CONCLUSION

The SEA for the Amboseli Ecosystem Management Plan (2000-2018) arrived at the following conclusions based on the findings of the baseline situation analysis, PPP analysis, plan impact analysis and stakeholder consultations:-

- a) The AEMP (2008-2018) is a good and commendable plan with minimal negative environmental impacts which account for only about 10.8% of the plan activities according to the First Year Activity Plan (2008-2018). Some of the outstanding issues concerning the plan include the following:- a) It is well organized, well-illustrated and easy to follow, b) it has adopted the ecosystem approach as advocated by a wide range of MEAs including the CBD, Ramsar World Heritage Convention and CMS. This approach is also advocated by Vision 2030, and the Draft Environment Policy (2012, c) the plan was formulated through the participatory approach which is compliant with the spirit of the Constitution of Kenya and the Draft Environment Policy (2012).
- b) The Protected Area Planning Framework (PAPF) which was used in the formulation of AEMP may not have fully captured all the ecosystem-wide issues in the region especially the socio-economic aspects outside the Amboseli National Park. The PAPF also appears to be weak in terms of embracing and accommodating relevant environmental obligations in the National PPPs.
- c) The findings indicated that the management plan has not adequately embraced important trans-boundary frameworks which Kenya has ratified and is expected to domesticate as a member of the EAC. Some of the affected trans-boundary frameworks include the EAC Climate Change Policy (EACCCP, 2011), EAC Protocol on Environment and Natural Resources and the EAC Trans boundary Ecosystems Management Bill, 2010. Apart from weakening the opportunities for better regional collaboration in trans-boundary environmental management including regional environmental diplomacy and cooperation, this might also affect the trans-boundary activities which some stakeholders such as AWF, IFAW and ACC are advocating and implementing in the ecosystem.
- d) The management plan has not adequately embraced some relevant international MEAs which Kenya has ratified and is expected to domesticate as a member of the global community of nations. Some of the affected frameworks include the Seville Strategy for the Management of Biosphere Reserves, the Madrid Action Plan (2008-2013) for Biosphere Reserves, and the United Nations Framework on Combating Climate Change, United Nations Convention to Combat Desertification. The inability of the AEMP to effectively domesticate the Seville Strategy for the management of Biosphere Reserves means that the Amboseli National Park might not participate well in the activities associated with UNESCO MAB Programme on Biosphere Reserves either through the Secretariat in Europe but also through AfriMAB, the regional chapter in Africa as well as the Kenya National Commission for UNESCO.
- e) The following conclusions were made with regard to the capacity of the AEMP in implementing important environmental obligations as reflected in national policies, legal frameworks and strategic plans:-
 - i. Although the plan has attempted to embrace the environmental obligations in key national environmental policies, the following policies are not adequately integrated in the AEMP:
 - Sessional Paper No. 6 of 1999 on Environment and Development
 - Draft Environment Policy (2012)
 - National Land Policy (2009)
 - Draft National Wildlife Policy (2011)
 - National Forest Policy (2005)
 - National Tourism Policy (2007)
 - National Gender and Development Policy (2000),
 - Draft National Policy on Peace Building and Conflict Management (2006)

- Draft National Policy on Wetlands Conservation and Management (2013)
 - National Gender and Development Policy, and National Policy for Disaster Management (2009).
 - National Policy for the Sustainable Development of Arid and Semi-Arid Lands of Kenya (2012)
- ii. The plan, on the overall, has adequately considered the expected obligations in the Environmental Management and Coordination Act (EMCA, 1999) with only a small margin of un-integrated obligations at approximately 27%. However, other thematic legal frameworks such as the Water Act, Cap 372 (2002) has almost 100% non-integration while the Forest Act (2005) has 66.7% non-integration. The inability by the AEMP to integrate the Water Act (2002) is unfortunate because water issues are a key challenge in the ecosystem.
- iii. The findings showed that the following three strategic plans have not been adequately considered in the management plan:-
- Kenya Vision 2030
 - National Biodiversity Strategy and Action Plan (2000)
 - National Climate Change Response Strategy (2009)
 - National Environment Action Plan (2009-2013)
- The poor integration and visibility of the Vision 2030 in the AEMP is not good because the plan is expected to help in the implementation of the national strategy by supporting the realization of its goals at the local and regional levels.
- f) The AEMP is characterized by weak institutional linkages because many of the stakeholders who were involved at the planning stage are not adequately featuring in the plan implementation framework which is centered around the Amboseli Ecosystem Trust (AET). This is particularly common with regard to the Central Government and County Government offices which are operating within the ecosystem. Unless such institutions are integrated in the AEMP implementation structure, this could affect the long-term outcomes of the plan as currently envisioned because such offices will be instrumental in the implementation of the plan through partnerships with the AET. It would therefore be useful to expand the Plan Implementation Structure (AET) to include membership of other key stakeholders such as:- trans-boundary stakeholders where possible, representatives of County and National Governments and Private Sector Actors especially those in the tourism sector.
- g) The findings identified indicated the following as the areas currently with a potential for high environmental footprint as follows:-
- Amboseli National Park
 - South Eastern Border of Amboseli National Park
 - Kimana area
- h) The findings also indicated that the proposed tarmarking of the Namanga Meshanani-Amboseli Road as well as the proposed establishment of the Amboseli Town to the north of Amboseli National Park are likely to have far-reaching implications on the environmental integrity of the Amboseli Ecosystem and should be re-evaluated.

8. RECOMMENDATIONS

The following recommendations were made based on the findings of the SEA:-

- a) The AEMP should be gazetted as-is but together with the recommendations of the SEA (annexed) and the SEA recommendations incorporated in the AEMP during the plan review.
- b) The Implementation Structure (AET) should be expanded to include membership of the following stakeholders;
 - Trans-boundary stakeholders
 - Representatives of County and Central Governments
 - Private Sector Actors
 - Development Non-State Actors
- c) All other subsidiary local area management plans such as the Olgulului-Ololarashi Conservation and Development Plan (2011-2021) and the Kimana Integrated Wetland Management Plan (2008-2013)

- should be gazetted together with the AEMP in order to strengthen it by ensuring sufficient grass root domestication. In any cases where other local area plans are contradicting the AEMP, the later shall prevail.
- d) No further tourism investment should be allowed in the following areas due to the current high level of environmental impact:
 - i. Block 18 – Amboseli National Park (See Figures 6-1)
 - This consists of the tourist facilities inside the Amboseli National Park with a density of 7 facilities per 10x10km grid.
 - ii. Blocks 7 & 17 – South Eastern Border of Amboseli National Park (See Figures 6-1)
 - This consists of the tourist facilities just next to the Amboseli National Park with a density of 3-4 facilities per 10x10km grid.
 - iii. Block 6 - Kimana area (See Figures 6-1)
 - This consists of the tourist facilities in the former Kimana Wildlife Sanctuary area with a density of 2-3 facilities per 10x10km grid. These facilities should be rehabilitated.
 - e) Future tourism investment should only be undertaken in the other parts of the ecosystem outside the National Park especially within the various Community Conservancies in the area notably Kitirua Conservancy and Kitenden Wildlife Corridor (KWC), Kilitome Conservancy in Kimana, Leng'arunyani Conservancy, Losikutok, The Chyulu West Conservancy, Motikanju Conservancy, Osupuko Conservancy, Elerai Conservancy, Rombo Emaempuli Conservancy, Oltiyani Conservancy and Eselenkei Conservation Area.
 - f) Development of tourist facilities should only be carried out within wildlife conservancies established in accordance with the wildlife Act, 2013 but such conservancies should not be less than 2500 acres in accordance with the Limits of Acceptable Use (LAU) Principle.
 - g) A specialized task force should be established by NEMA to review the ESIA report for the Namanga Meshanani-Amboseli Road with the aim of:- a) considering the option of modifying the route so that the road connects to the Emali-Loitokitok Road at Makutano. The task force should also recommend suitable options for ensuring that the project adheres to the principles of eco-road construction especially with regard to safe wildlife movements.
 - h) The proposal for the establishment of the Amboseli Town to the north of Amboseli National Park should be reconsidered because it will have a wide range of environmental drawbacks such as :- i) Intensifying the water problem in the ecosystem, ii) destroying a critical dry season livestock grazing area in the Olgulului-Ololarashi Group Ranch (OGR), iii) destroying a critical dry season wildlife dispersal area for the Amboseli National Park, iv) escalating the problem of human-wildlife conflicts, v) violating the key environmental goal of Vision 2030 of "Securing the Wildlife Corridors and Migratory Routes", and vi) violating the status of Amboseli as an international Biosphere Reserve (BR) under the UNESCO Man and Biosphere program (MAB) which makes it a globally significant. Previously, other Sites of International Importance in Kenya such as Lake Naivasha which is a Ramsar Site and Mount Kenya which is a BR as well as a World Heritage Site have almost been blacklisted due to unsustainable development which is not good for the Kenyan image internationally.
 - i) A review of the PAPF should be undertaken in order to ensure full integration of the needs of ecosystem-wide planning especially for the protected areas with important ecological, hydrological and socio-economic linkages with surrounding environments outside the protected area.

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1. INTRODUCTION

1.1: BACKGROUND

Kenya is considered one of the world's mega-biodiversity countries in the world due to its superiority in diversity and abundance of species as manifested in its rich wildlife and variety of ecosystems (NEMA 2005). The country's known biodiversity consists of an estimated 35,000 known species of plants and animals including approximately 21,575 insects, 1,133 birds, 314 mammals, 191 reptiles, 180 freshwater fish, 692 marine and brackish fish and 88 amphibians (NEMA 2005). It also has a significant number of endemic species in various important biodiversity areas (IBAs) around the country. However, only about 8% of the country's total surface area has so far been designated as protected area (PA) for environmental conservation. But recently, many private and community conservancies have been established especially in the arid and semi-arid areas (ASALs), and these have provided additional biodiversity conservation landscapes beyond the national network of protected areas (GoK 2007b). Protected areas in Kenya are important assets for revenue generation at local, county and national levels through wildlife based tourism. Since independence, the tourism industry has been one of the major revenue generating sectors for the country. Currently, it is the second largest foreign exchange earner after agriculture accounting for 7% of the GDP and 9% of the total formal employment in the country (GoK, 2007b, GoK, 2008b, GoK, 2009f).

Vision 2030 which represents Kenya's blue print for economic growth, aims at increasing annual GDP growth rate to an average of 10% in the next two decades for which the government has identified tourism as a leading sector in achieving this goal (GoK, 2008b). Among the strategies to be adopted in order to achieve this goal is the quadrupling of annual GDP contribution by tourism to more than Ksh 200 billion, and raising the number of international visitors from 1.6 million in 2006 to over 2 million. In this regard, Kenya aims at being among the leading tourism destinations in the world by offering a high-end, diverse and distinctive visitor experiences that few of her competitors can offer (GoK, 2007b, GoK, 2008b, GoK, 2009f). However, it is also worthy recognizing the fact that unregulated development within and around key conservation areas such as national parks in the country is capable of destroying key national assets including valued ecosystems and their priceless species such as the elephants (*Loxodonta Africana*), rhinos (*Diceros bicornis*) and lions (*Panthera leo*).

1.2: SUSTAINABLE DEVELOPMENT IN CONSERVATION AREAS AND SENSITIVE ENVIRONMENTS

According to the Environmental Management and Coordination Act (EMCA, 1999), the management planning for all development activities in important biodiversity areas (IBAs) around the country should be approved under appropriate legislation. At the moment, the central legislation that is the bedrock for environmental protection in Kenya is the Environmental Management and Coordination Act (EMCA, 1999) which is the umbrella legislation that takes precedence over other sectoral environmental legislation. EMCA (1999) provides the National Environment Management Authority (NEMA) with powers to approve or disapprove major developments in wildlife conservation areas based on proper planning and assessment of environmental impacts (GoK, 1999b). NEMA is therefore the lead authority spearheading the process of assessing and approving management plans in sensitive environments. Specifically, it's mandate in this regard is buttressed by Section 38 of EMCA (1999) which mandates it to:-

- a) Set out operational guidelines for the planning and management of the environment and natural resources as outlined in Section 38(c), and
- b) Propose guidelines for the integration of standards of environmental protection into development planning and management as outlined in Section 38(h).

Additionally, Section 51 on Conservation of Biological Resources requires NEMA in conjunction with relevant agencies to prescribe adequate measures for ensuring the conservation of biological resources *in-situ* and issue guidelines for:-

- a) Ensuring land use that is compatible with the conservation of biological diversity,
- b) Identification and sustainable management of buffer zones near protected areas,
- c) Protection of threatened species, ecosystems and habitats.

Further, Section 54 on Protection of Environmentally Significant Areas (ESAs) states that:-

- a) The Ministry may, in conjunction with the relevant lead agencies, by notice in the Kenya Gazette, declare any area of land, sea, lake, or river to be a protected natural environment for the purpose of promoting and preserving specific ecological processes, natural environment systems, natural beauty or species of indigenous wildlife or the preservation of biological diversity in general, and
- b) Subsection (1) states that, NEMA may, in consultation with the relevant lead agencies, issue guidelines and prescribe measures for the management and protection for any area of environmental significance declared to be a protected natural environment.

While EMCA (1999) takes precedence over other legislation, it is important to emphasize that management plans for critical wildlife areas should demonstrate a clear understanding of the other policies and legislation that may influence the operations of such environments especially the protected areas. Although integration with EMCA (1999) as well as other subsidiary NEMA regulations, standards and guidelines should not preclude the place and importance of other legislations, it is still recognized as the umbrella environmental legislation. EMCA (1999) gives “teeth” and “muscle” for NEMA to spearhead pre-cautionary activities in order to ensure sustainable development in conservation areas and other valued and sensitive environments in the country. All these measures are meant to ensure that development, which is an inevitable necessity in any country including Kenya does not in any way undermine the very objectives of environmental conservation. In other words, it is necessary to regulate development so that in the long-term, it doesn't destroy the environment from which the valued goods and services it requires are obtained.

1.3: AREA MANAGEMENT PLANS

An area management plan is a blueprint for the way that area including its environment and natural resources should be utilized and managed within a specified period of time. The plan usually serves as a critical point of reference which can clearly indicate the progress made or lack of it in terms of the proposed management actions and interventions within the specified period of time. It is also a vital tool in monitoring and evaluation of subsequent development activities and future environmental change. The planning process in many protected areas in Kenya is undertaken in accordance with a wide range of relevant guidelines such as the KWS Protected Area Planning Framework (PAPF) whose key pillar is stakeholder participation in all aspects of the planning process (KWS, 2007). The PAPF was prepared and is advocated by KWS as a standard guideline for developing new management plans for National Parks and National Reserves in Kenya. In recent years, it has also been adopted for the management of private and community wildlife sanctuaries and conservancies.

Several protected areas management plans in Kenya have been formulated using the PAPF guidelines. Notable examples include Lake Nakuru Integrated Ecosystem Management Plan (2000-2012), Meru Conservation Area Management Plan (2007-2017), Samburu-Isiolo Conservation (2010-2020), and Aberdares Ecosystem Management Plan (2010-2020). In addition to the PAPF guidelines, conservation management planning in Kenya is also undertaken in accordance with a wide range of other relevant guidelines such as the Guidelines for Conservancy Management Planning (KWT, 2011). Apart from addressing wildlife conservation and tourism, the latter also considers a wide range of consumptive resource utilization aspects including; livestock grazing, agriculture, firewood harvesting and so on which are exclusive for state protected areas but important private and community conservancies where livelihood activities must be considered in conservancy management planning.

One of the main challenges of sustainable environmental management is that of ensuring that all the new management plans in a country are properly aligned and configured within the national goals for environmental sustainability at all levels, namely, local, county, national, regional and global levels. This obligation requires the management plans to effectively integrate the various instruments of sustainable environmental management such as policies, legal frameworks, strategic plans, regional frameworks and international multilateral environmental agreements (MEAs). Without such integration formulation of

management plans might not effectively correspond with the national and international sustainability goals. It is also necessary to ensure that the package of development activities in a management plan does not introduce negative environmental impacts because this can have devastating implications for the county and nation on the long-term. The general aim of Strategic Environmental Assessment (SEA) is to scrutinize new management plans and ensure that they are environmentally sustainable and compliant to the exiting environmental obligations in policies, legal frameworks, strategic plans and MEAs.

1.4: ROLE OF STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) IN SUSTAINABILITY EVALUATION FOR MANAGEMENT PLANS

Strategic Environmental Assessment (SEA) is a systematic and comprehensive process for evaluating the environmental consequences of new policies, plans or programme (PPPs) and their alternatives (NEMA, 2012). It is a valuable tool for ensuring that relevant environmental considerations are appropriately addressed in all the PPPs and can therefore be viewed as a decision-support tool for sustainable environmental management at strategic levels. The overall aim and purpose of a SEA is to: a) assess the environmental sustainability of new PPPs, and b) improve the quality of environmental governance in the country. The aim of a Plan SEA is to ensure that all new management plans and strategies are environmentally sustainable in order to reduce the risk of adverse impacts during the implementation phase.

The major purpose of undertaking a Plan SEA is based on the realization that not all management plans will always be formulated in a sustainable manner. Some of them might not be environmentally sound in terms of integrating the environmental goals of relevant national policies, strategic plans and multilateral environmental agreements and can therefore become a source of continuous strain on the environment and its subsequent degradation. The SEA is supposed to prevent such eventualities by recommending appropriate adjustments in all new PPPs for their improved sustainability.

2. AMBOSELI ECOSYSTEM MANAGEMENT PLAN (2008-2018)

2.1: OVERVIEW

The Amboseli ecosystem covers approximately 5,700 km², stretching between Mt. Kilimanjaro, the Chyulu Hills and Tsavo West National Park and the Kenya/Tanzania Border (Figure 2-1 & Figure 2-2). It is a fragile semi-arid ecosystem that is internationally recognized as a UNESCO Biosphere Reserve under the Man and Biosphere Programme (MAB) because of its significance as an area which fulfills the three complementary roles of; conservation, research and development for the local people, Kenya and the world (KWS, 2008). For decades, the ecosystem was characterized by low environmental degradation, and was endowed with numerous and diverse types of biodiversity. But in the recent past, it has been under siege from a wide range of factors including; rising human population, increasing livestock numbers, sedentarized livelihoods; unsustainable land subdivision, unplanned urban settlements, haphazard developments such as unplanned tourism facilities, and expanding farming activities especially irrigated agriculture in previously livestock grazing and wildlife areas.

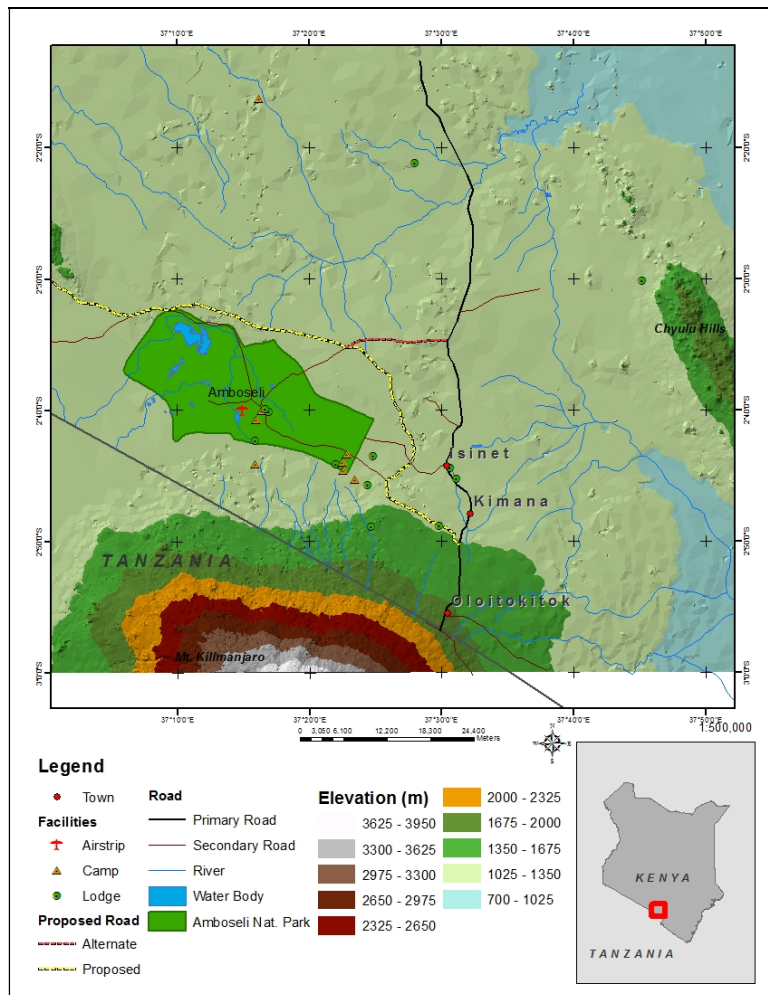


Figure 2- 1: Topographic, hydrologic and general land use characteristics in the Amboseli Ecosystem

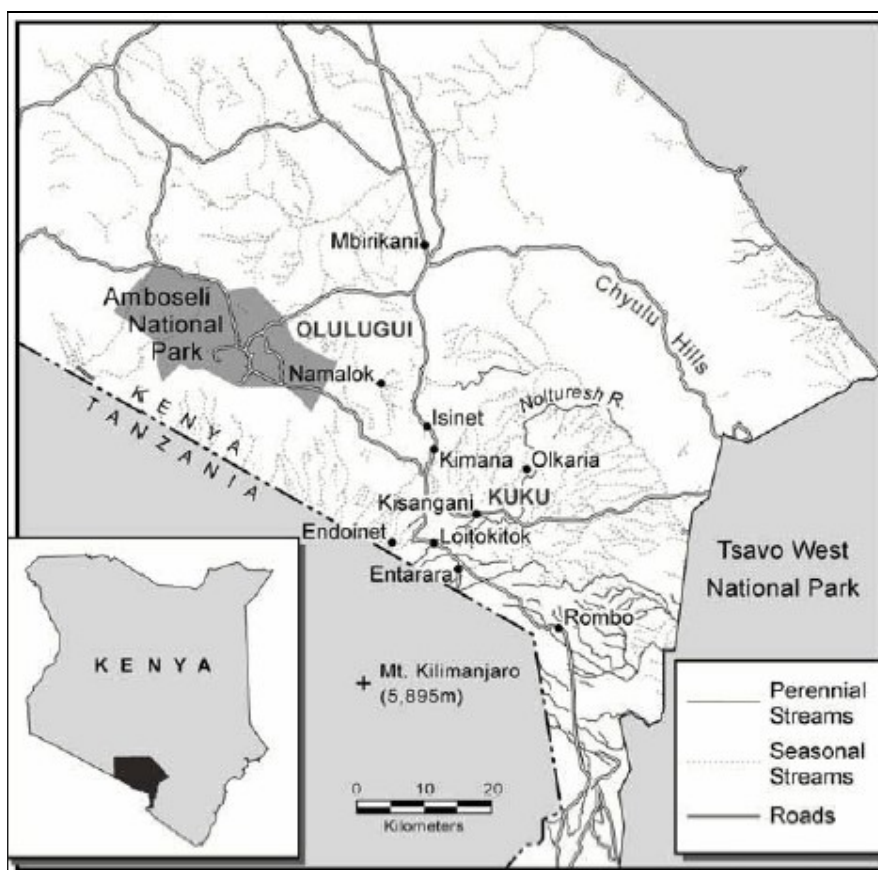


Figure 2- 2: Location of Amboseli National Park and the main market centres in the region

The landuse change in the area has increasingly constrained the historical and traditional livestock grazing and free movement and dispersal of wildlife in the ecosystem. The change has also led to environmental degradation, destruction and encroachment of prime wildlife habitats, and competition for essential resources like pasture and water between humans livestock. This has escalated the level of human-wildlife conflicts (HWC) and escalated wildlife poaching for bush meat. Collectively, these problems in the ecosystem have, and continue to be a threat to the preservation of wildlife and beautiful landscapes. In the long-term, it threatens the national, regional and international conservation role of the Amboseli region including its role as a global Biosphere Reserve.

Consequently, the Amboseli Management Plan (2008-2018) was developed to serve as an instrument and guideline for sustainable environmental management for the ecosystem. The purpose of the plan which was developed through a rigorous consultative process is to protect the fragile zones in the ecosystem and control development in the area in order to realize harmony between multiple development initiatives, local socio-economic aspirations and environmental conservation goals. It also enables identification of future land use options that will ensure sustainable development of the ecosystem in line with Kenya's new Constitution, the aspirations of Vision 2030 and other planning frameworks.

The 10-year management plan was developed through a collaborative effort involving a wide array of stakeholders including; KWS, ATGRCA, AWF, ACC, IFAW, ATE, SFS, Government Ministries and the then Oloitokitok/Kajiado District administration. The planning process was initiated in November 2004 as a follow up to the recommendations of the Amboseli Stakeholders Workshop held in February 2004, which among other things created several task forces aimed at addressing natural resource management issues within the ecosystem, among them, management planning. The need to prepare a management plan for the Greater Amboseli Ecosystem was based on the appreciation that the globally important dry land

pastoralist/wildlife ecosystem, like many other ecosystems in the world, has been facing increasing environmental stress due to both human induced and natural pressures that either have begun to, or could if not properly managed, result in a number of undesirable outcomes such as: a) deterioration and loss of biodiversity especially threatened valued species like elephant and rhinos, b) deterioration and decline of grazing resources, c) depletion and pollution of water resources, and d) unsustainable use of other resources like range vegetation.

The overall aim of the plan is to; a) maintain ecosystem diversity and ecological resilience, b) conserve the ecosystem's wildlife species (including threatened species) and habitats, especially the charismatic elephants and the swamps they depend on, and c) promote sustainable development of the ecosystem for the benefit of the present and future generations (KWS 2008). Specific objectives of the AEMP are to: - a) maintain wildlife seasonal movements across the entire ecosystem which are essential for sustaining large herds and their resilience in the face of rainfall patchiness coupled by climate variability disease and predation, b) promote partnerships with the local communities in the ecosystem by enhancing benefits derived from sound management of natural resources, c) promote sustainable tourism in the ecosystem, and d) provide research and conservation education opportunities.

The plan outlines specific management programmes and action plans that if implemented, wildlife conservation values and quality of life for the people in the area will be improved significantly. The five (5) management programmes in the plan are: a) Ecological Management, b) Tourism Development and Management, c) Community Partnership and Education, d) Security and e) Ecosystem Operations. Each programme contains management objectives that set out the goals that the AEMP aims to achieve, and a set of specific management actions to achieve those goals. In order to facilitate the plan implementation, the five management programmes were aligned with the KWS organizational structure as the lead national conservational agency in the area. In addition, each of the management programmes has a 3-year Activity Plan, which breaks down the individual management actions into day-to-day management activities that are to be implemented in the plan period. The first 3-year (2008-2011) activity plan was the key focus of the Plan SEA as an Ex-Post Evaluation. Subsequent review of the management plan is expected to come up with the follow-up 3-year activity plans based on the overall ideals of the plan. Detailed insights on the purpose of each of the five management programmes are elaborated below.

2.1.1: Ecological Management Programme

This programme is supposed to ensure that the ecological components and processes that shape and sustain the Amboseli Ecosystem are clearly understood, sustainably managed and threats to the key ecological functions minimized. In the first 3 year activity plan, the Ecological Management Programme had 4 key objectives, 20 actions and 54 tangible activities. The 4 objectives were: a) securing critical wildlife dispersal areas, corridors and habitats, b) sustainable management and protection of swamps and river systems in collaboration with stakeholders, c) conservation of threatened large mammal species including elephants and large predators, d) sustainable management of the black rhino which is nowadays only in the Chyulu Hills and its environment, and e) ecological monitoring and research information dissemination.

2.1.2: Tourism Development and Management Programme

Essentially, this programme is aimed at developing high quality and sustainable tourism that optimizes benefits locally and nationally within agreed limits of acceptable use. In the first 3-yr activity plan, the programme had 4 objectives, 21 actions and 49 activities. The four objectives were:- a) sustainable development and management of tourism in the Amboseli Ecosystem, b) enhancing the delivery of tourism returns to the local community, c) diversification of tourism in the ecosystem including visitor experience in order to boost visitor satisfaction, and d) promoting and marketing tourism in the region so as to attract high end local and international tourists.

2.1.3: Community Partnerships and Education Programme

The programme is intended to encourage and inculcate a culture of sustainable conservation and management of wildlife outside Amboseli National Park, mainly on community owned land. The programme had 4 objectives, thirty four (34) actions, 83 activities. The 4 objectives were:- a) opening up and maintaining wildlife dispersal areas around Amboseli NP and critical linkages to adjacent Tsavo and Kilimanjaro National Parks, b) reducing human-wildlife conflict in community areas, c) ensuring that community benefits from natural resource use are diversified and shared equitably, and d) improving and enhancing livestock production so as to enhance community livelihoods.

2.1.4: Security Programme

The purpose of this programme is to ensure that the security of wildlife and visitors in the Amboseli Ecosystem is enhanced and sustained through close collaboration with stakeholders. According to the Management Plan, AE has not had serious security threats, although the AE management is on the alert to ensure that bush meat poaching does not escalate and trophy poaching remains insignificant. The programme had 3 objectives, 10 Actions and 20 activities. The three objectives were:- a) enhancing security operations for the protection of AE's wildlife resources, b) improving the effectiveness of natural resource protection, and c) enhancing security of visitors, KWS staff, and KWS assets.

2.1.5: Ecosystems Operations Programme

The main thrust of this programme is to improve service delivery by KWS staff and other conservation partners within and outside Amboseli National Park. It also targets to improve relationships with stakeholders, KWS staff welfare and infrastructure for the overall purpose of enhanced management in the ecosystem. The programme had 3 objectives, 23 management actions, and 44 activities. The three objectives were: - a) formalizing and strengthening institutional collaborations, b) improving the welfare and performance of KWS staff in the ecosystem, and c) enhancing ecosystem management infrastructure.

2.2: RATIONALE FOR UNDERTAKING A STRATEGIC ENVIRONMENTAL ASSESSMENT FOR THE AMBOSELI ECOSYSTEM MANAGEMENT PLAN (2008-2018)

The National Environment Management Authority (NEMA) and other relevant lead agencies such as KWS, KFS and WRMA, the community and other stakeholders such as the Local Administration, ATGRCA, hoteliers and environmental NGOS including ACC, AWF, and IFAW supported the development of the AEMP in 2004. Thereafter and in Pursuant to Section 50 (d), (e) and Section 54 of EMCA (1999) and also in furtherance to the consultative forum resolutions on the management plan, NEMA declared a one-year Moratorium for all proposed development activities in the Amboseli Ecosystem until the AEMP was officially gazetted prior to which a Strategic Environmental Assessment (SEA) had to be undertaken.

The moratorium was arrived at after a consultative forum attended by stakeholders from lead agencies who included; NEMA, KWS, KFS, WRMA, ATGRCA, Olkejuado County Council, Ministry of Regional Authorities, Attorney General's Chamber, Kenya Investment Authority, Ministry of Tourism, AWF, ACC, IFAW, AET, members of the local community among others. The one year moratorium came to effect from 28th February 2013. The moratorium decision took into account; social-cultural, economic, physical, and ecological processes within the ecosystem, guided by the national spatial planning guidelines, guidelines for integrated assessment and also based on the principles and provisions for Strategic Environment Assessment (SEA). The moratorium, which was legally gazette in Kenya Gazette Notice was later extended upto September 2014.

The implication of the moratorium was that NEMA and all other relevant lead agencies would not issue requisite licenses for any new or proposed developments or projects as listed in the Second Schedule of the EMCA (1999) until the management plan had been gazetted so that it could serve as a regulating instrument for future development activities in the ecosystem. Consequently, the Tourism Minister at the time Najib Balala, indicated that ministry would not license any tourism activity in the area until the expiry of

the moratorium after the Strategic Environmental Assessment (SEA) was undertaken and the AEMP officially gazette.

The AET, on behalf of other stakeholders identified Habitat Planners as a competent consultancy firm to undertake the Plan SEA. Thus, Habitat Planners & Environmental Consultants which is registered by NEMA to undertake environmental assessments and audits in Kenya under Certificate No. 0465 undertook the SEA in accordance with the 2012 NEMA National Guidelines for Strategic Environmental Assessments in Kenya.

2.3: TERMS OF REFERENCE FOR THE STRATEGIC ENVIRONMENTAL ASSESSMENT

The Ex-post Plan SEA was undertaken during implementation of the AEMP with the scope largely based on Terms of Reference for Technical Assistance for Strategic Environmental Assessment prepared by the Client (AET) in 2013, the 2012 National Guidelines for Strategic Environmental Assessment in Kenya as well as the technical scope of the Amboseli Ecosystem Management Plan (2008-2018). The scope was also guided by the general requirements for ensuring that the AEMP will be environmentally sustainable in accordance with the environmental obligations of prescribed in national policies, legal frameworks and strategic plans in the country as well as regional environmental frameworks and MEAs.

The Consultant, Habitat Planners & Environmental Consultants Ltd (HP) was provided with eight (8) technical issues to be considered in the Plan SEA, namely:-

- a) **Determining the scope of the SEA:** This entailed undertaking a scoping process to establish the content of the SEA, the relevant criteria for assessment (e.g. goals set out in the sustainable development criteria, and the indicators and Limits of Acceptable Change (LAC).
- b) **Establishing participatory approaches to bring in relevant stakeholders:** The main aim was to ensure effective and sustained public engagement during the SEA. The Consultant was expected to ensure a clear understanding of the power relations between different stakeholders, and how they interact with each other and the environment in order to eventually ensure a smooth implementation of the AEMP.
- c) **Collection of baseline information and situation analysis:** The aim this was to provide a thorough understanding of the potentially affected environment in the Amboseli Ecosystem including and social systems. The SEA was expected to undertake a comprehensive review of the international, national or regional legislative instruments which are relevant for the AEMP.
- d) **Identification of alternative plans:** The rationale of this was to provide a hierarchy of alternatives that could be considered for the management plan and undertaking an early comparative evaluation of the needs and impacts of different options, including a broad range of alternatives, well before any irrevocable decisions are made.
- e) **Identification, prediction of impacts and determination of significant impacts:** This was expected to involve an assessment of AEMP impact significance and magnitude of impact, trade-offs, and options or alternatives in order to determine optimum choices and eliminate unacceptable ones.
- f) **Identification of measures to enhance opportunities and mitigate adverse impacts:** The Consultant was expected to focus on the realization of the positive opportunities of the planned activities in the AEMP in line with the Millennium Development Goals (MDGs) and recommend suitable strategies for minimizing any negative risks. The aim of the SEA was to develop “win-win” situations where multiple, mutually reinforcing gains could strengthen the economic base, provide equitable conditions for all, and protect and enhance the environment within the Amboseli

Ecosystem. Where this was impossible, the trade-offs were to be clearly documented to guide decision makers.

- g) **Draft report on the findings of the SEA:** This was to involve the preparation, compilation and presentation of a Draft SEA Report for review once the technical analysis was completed. This was expected to include a succinct, Non-Technical Summary which would be of particular use in explaining the findings to local communities, who should be well informed about the environmental implications of the management plan in order to submit their SEA comments and validate the final document.
- h) **Final SEA report for submission to NEMA and making recommendation to decision makers:** The Consultant was expected to prepare and present the Final SEA Report after incorporating the comments from all stakeholders for submission to NEMA. The Consultant was also expected to ensure that decision makers know the options open to them, what the likely effects of the choices are, and what the consequences would be if they failed to reach a decision.

3. SCOPE, APPROACH AND METHODOLOGY

3.1: OVERVIEW

The main aim and purpose for the Amboseli Ecosystem Management Plan SEA was mostly to evaluate the environmental sustainability and public acceptance of the AEMP interventions especially through the environmental impact assessment of the three-year activity plans. It was also expected to serve as a tool for identification of the plan interventions which would require in depth assessment at project-level ESIA and EAs. In this way, the SEA would eventually serve as an important reference point for the ESIA and EAs in the Amboseli Ecosystem as indicated in Figure 3-1.

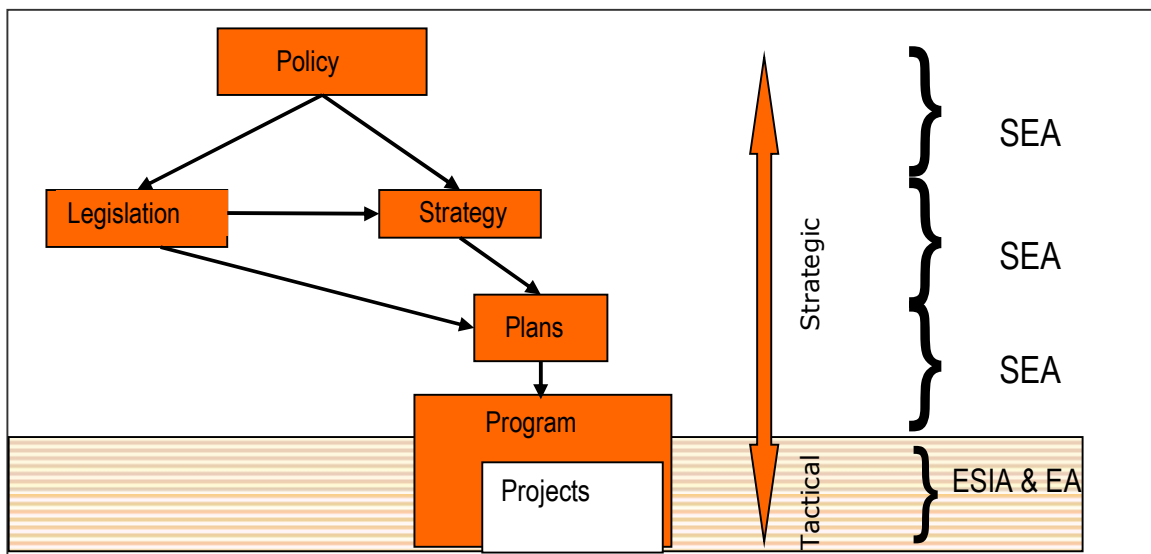


Figure 3- 1: The linkages between SEA, ESIA and EA

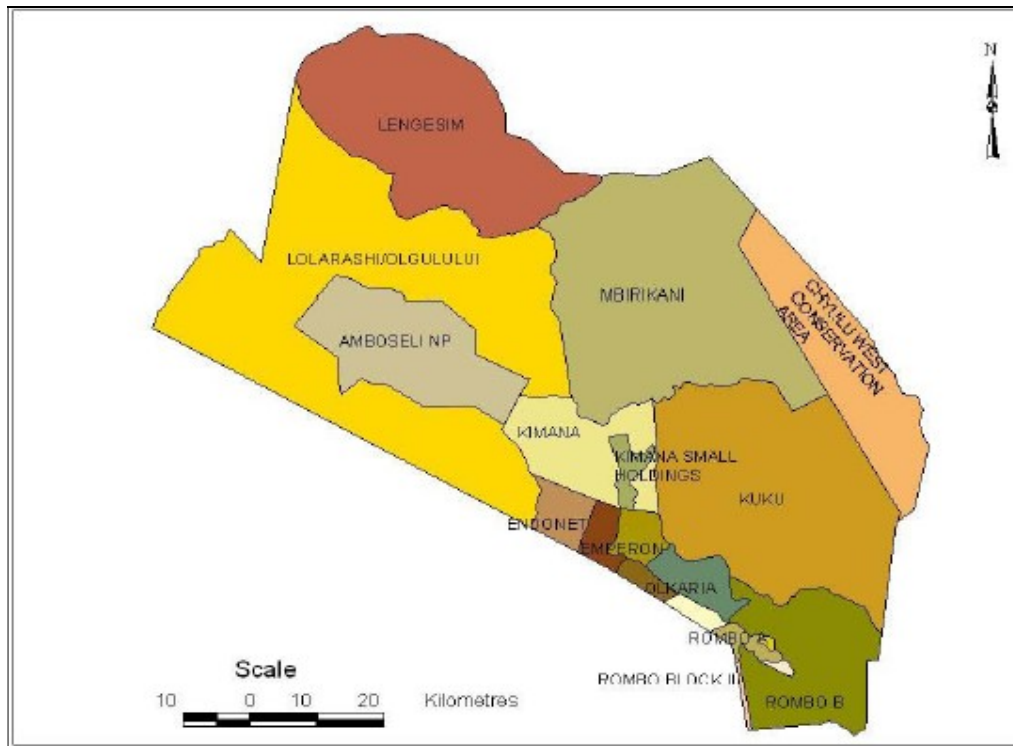
The following key objectives were identified for the SEA based on the Client Terms of Reference as well as the requirements of the 2012 National SEA Guidelines:

- Assessing the level of integration of the AEMP with existing national environmental policies and legal frameworks.
- Evaluating whether the proposed activities in the AEMP are compliant with EMCA (1999) and its regulations, and establish suitable mitigations for any negative impacts.
- Assessing the level of integration of the AEMP with other relevant plans and strategies.
- Determining whether the AEMP is compliant with trans-boundary, regional and international environmental frameworks (MEAs), and
- Collating stakeholders' inputs on the long term environmental gains and implications of the AEMP.

3.2: SCOPE FOR THE AMBOSELI ECOSYSTEM MANAGEMENT PLAN SEA

3.2.1: Geographic Scope

The scope of the SEA for the AEMP covered the entire Amboseli Ecosystem, which is approximately 5,700 km², stretching between Mt. Kilimanjaro along the Kenya-Tanzania border to the south, the Chyulu Hills to the east, Tsavo West National Park to the south east, the Namanga area to the west and the Mbirikani area to the north. The specific areas in the scope included Amboseli National Park and the surrounding six group ranches namely; Olgulului/Olararashi, Kimana/Tikondo, Eselengei, Mbirikani, Kuku, and Rombo (Figure 3-2). It also included the former 48 individual group ranches located at the foot slopes of Kilimanjaro that are sub-divided and mostly under rain-fed agriculture.



**Figure 3- 2: A map showing the geographic scope of the Amboseli Management Plan SEA
(Source – KWS, 2008)**

3.2.2: Technical Scope

The technical scope of the Plan SEA was mainly restricted to the physical, biological and social impacts of the three-year Activity Plan for the five management plan programme areas, namely;

- a) Ecological Management
- b) Tourism Development and Management
- c) Community Partnership and Education
- d) Security
- e) Ecosystem Operations

3.3: THE SEA ROADMAP

The following systematic chain of broad activity clusters were adopted in the SEA implementation:-

- i. Orientational consultations with the client
- ii. Screening and scoping of issues to be considered in the SEA
- iii. Documentary analysis for identification of a comprehensive PPP framework for PPP analysis
- iv. Preparation of a PPP Brief and submission of the same to NEMA for approval
- v. Field reconnaissance and stakeholder identification.
- vi. Preparation of screening and scoping report and ToR for submission to NEMA
- vii. PPP integration assessment of the 5 AEMP programmes
- viii. Field missions for baseline situation analysis
- ix. Stakeholder consultations and public participation
- x. Plan environmental impact analysis
- xi. Impact mitigation planning
- xii. Identification of gaps and alternatives actions
- xiii. Preparation of an Environmental and Social Management and Monitoring Plan (ESMP)
- xiv. Presentation of findings and stakeholder dialogue
- xv. Compilation, validation and submission of SEA report

3.4: PPP FRAMEWORK

A comprehensive PPP framework was developed for the Strategic Environmental Assessment comprising the following instruments: - a) trans-boundary frameworks for environmental cross-border issues in the area, b) international frameworks for the global obligations associated with the Amboseli Ecosystem, c) national environmental policies, and d) national strategic plans. A total of 53 environmental PPPs were identified and considered as relevant for the AEMP. These included 3 regional frameworks, 9 MEAs, 15 national policies, 13 environmental legal frameworks and 13 strategic plans. A total of 356 environmental obligations were identified in the 53 PPPs for the PPP analysis. The identity of the PPPs is highlighted below.

3.4.1: Regional frameworks

1. EAC Protocol on Environment and Natural Resources (EAC, 1999)
2. EAC Climate Change Policy (EACCCP) (EAC, 2011)
3. EAC Community Trans-boundary Ecosystems Management Bill, 2010 (EAC, 2010)
4. EAC Guidelines for Transboundary EIA (EAC, 2003)

3.4.2: MEAs

1. Seville Strategy for the Management of Biosphere Reserves (UNESCO, 2003)
2. Madrid Action Plan (2008-2013) for World Biosphere Reserves
3. Convention on Biological Diversity (CBD Secretariat, 1992)
4. United Nations Framework on Combating Climate Change (UN, 1992)
5. United Nations Convention to Combat Desertification (UN, 1994)
6. Ramsar Convention (UN, 1971)
7. Convention on Migratory Species (UN, 1979)
8. World Heritage Convention (UN, 1972) - Mt Kilimanjaro World Heritage Site
9. African Convention on the Conservation of Nature and Natural Resources (AU, 1968)

3.4.3: National environmental policies

1. The Constitution of Kenya (GoK 2010c)
2. Sessional Paper No. 6 of 1999 on Environment and Development (GoK, 1999d)
3. Draft Environment Policy (2012) (GoK, 2012c)
4. National Land Policy (2009) (GoK, 2009d)
5. National Water Policy (2012 Draft) (GoK, 2012f)
6. Draft Natural Resources' Development and Management Policy (2012)
7. National Policy for the Sustainable Development of Arid and Semi-Arid Lands of Kenya (2012) (GoK, 2012d)
8. Draft National Policy on Wetlands Conservation and Management (2013) (GoK, 2013)
9. Draft Wildlife Policy (2011) (GoK, 2011)
10. National Forest Policy (2005) (GoK, 2005b)
11. National Policy for Disaster Management, 2009 (GoK, 2009e)
12. National Gender and Development Policy, 2000 (GoK, 2000)
13. National HIV Policy (GoK, 1997)
14. National Environmental Sanitation and Hygiene Policy (2007) (GoK, 2007a)
15. Draft National Tourism Policy (2007) (GoK, 2007b)
16. National Horticulture Policy 2010 (GoK, 201a)
17. Draft National Policy on Peace Building and Conflict Management (2006) (GoK, 2006a)

3.3.4: Legal frameworks

1. Environmental Management and Coordination Act (EMCA) No. 8 of 1999 (GoK, 1999b)
2. EMCA (Wetlands, river banks, lake shores and sea shore management) Regulations, 2009 (GoK, 2009a)
3. Physical Planning Act, Cap 286, of 1998 (GoK, 1998)
4. Water Act, Cap 372 of 2002 (GoK, 2002)
5. Forest Act No. 7, of 2005 (GoK, 2005)
6. The Forest (Charcoal) Rules, 2009, Legal Notice No. 186 (GoK, 2009c)
7. Wildlife (Conservation and Management) Act Cap 376 of 1976, 1989 & Bill, 2013 (GoK, 2013)
8. Agriculture Act (GoK, 1955)
9. Tourism Act, No. 28 of 2012 (GoK, 2012e)
10. Public Health Act, Cap 242 (GoK, 1986)
11. Crop Production and Livestock Act, Cap 321 of 1926 (GoK, 2005c)
12. Energy Act No 12 of 2006 (GoK, 2006c)
13. Community Based Tourism Framework (2009) (GoK, 2009f)

3.4.5: Strategic plans

1. Vision 2030 (GoK, 2008b)
2. National Environment Action Plan (2009-2013) (GoK, 2009b)
3. National Biodiversity Strategy and Action Plan (2000) (GoK, 2000b)
4. National Master Plan for the Conservation and Sustainable Management of Water Catchment Areas in Kenya (2012), (GoK, 2012b)
5. National Conservation and Management Strategy for Elephants in Kenya (2012-2021) (KWS, 2012)
6. National Conservation and Management Strategy for the Black Rhino and Management Guidelines for the White Rhino in Kenya (2007-2011) (KWS, 2007)
7. National Conservation and Management Strategy for Lions and Spotted Hyenas (KWS, 2010)
8. Nairobi Metro 2030 (GoK, 2008a)
9. Agricultural Sector Development Strategy 2010-2020 (GoK, 2010d)
10. National Climate Change Response Strategy (2009) (GoK, 2010b)
11. National Tourism Master Plan (GoK, 1995)
12. Local area management plans (e.g. GR and Conservancy Management Plans)

The relevant PPPs were thoroughly screened in order to pinpoint the relevant environmental obligations which the AEMP is expected to be compliant with in order to comply with national, regional and international environmental aspirations for sustainable development. Table 3-1 provides a summary of the specific obligations identified for all the 53 PPPs.

Table 3- 1: Summary of the PPP framework for the Amboseli Plan SEA

a) Trans-boundary frameworks	
Name of framework	Relevant obligations for the Amboseli Management Plan
1. EAC Protocol on Environment and Natural Resources (EAC, 1999)	<p>Article 9 - Management of trans boundary resources a) Developing mechanisms for ensuring sustainable utilization of trans-boundary ecosystems</p> <p>Article 10 - Biological diversity (a) Collaboration in the conservation of trans-boundary biological diversity</p> <p>Article 12 - Management of wildlife resources 2.(a) Assessing and controlling activities which may significantly affect the conservation and sustainable use of wildlife and minimize negative impacts to wildlife resources (b) Managing wildlife and their habitats to ensure the maintenance of viable wildlife populations (f) Promoting community-based wildlife conservation and management and incorporating indigenous knowledge (g) Raising public awareness on issues of conservation and sustainable use of wildlife resources</p> <p>5. Supporting formulation of agreements or other arrangements, in the management of trans-boundary wildlife ecosystems and protected areas</p> <p>6. Cooperating in promoting management of shared wildlife resources and wildlife habitats across international borders</p> <p>7. Cooperating in promoting economic and social incentives in the conservation and sustainable use of wildlife resources</p> <p>Article 20 - Management of mountain ecosystems 3. (b) Promoting regional cooperation and exchange of data and information on trans-boundary mountain ecosystems</p> <p>Article 26 - Tourism development 2. (f) Supporting the establishment of regional quality and standards control mechanism harmonizing the standards for registration, accreditation and grading of tourism service providers and tourism facilities (g) Supporting the development of common and coordinated marketing and promotion strategies, action plans, and programmes for promoting both intra-regional tourism (i) Developing a code of conduct for tourists and tour operators</p> <p>Article 31 - Environmental impact assessment and audits 2. Supporting trans-boundary EIAs for trans-boundary activities and projects that may have significant adverse environmental impacts</p>
2. EAC Climate Change Policy (EACCCP) (EAC, 2011)	<p>Section 3.1.3 Climate change adaptation 3.1.3.1 Vulnerability reduction and building economic and social resilience (ii) Promoting diversification of economies to reduce overdependence on climate-sensitive sectors (iii) Promoting alternative livelihoods systems (iv) Enhancing adaptive capacities of communities and fragile ecosystems (v) Promoting social protection as a tool for disaster risk reduction and climate change adaptation</p> <p>3.1.3.3 Mainstreaming climate change adaptation in national development planning for water resources (iii) Improving water security by promoting investment in water storage facilities and technologies (iv) Promoting rain water harvesting, protection of water wells and springs, and other water sources</p> <p>Relevant sectoral obligations: a) Wildlife (ii) Establishing, promoting, and/or protecting wildlife migration corridors b) Tourism (ii) Developing and diversifying tourism products which are not very sensitive to climate change c) Infrastructure (i) Promoting climate change integration in all planning and design of infrastructure (i) Promoting community based approach to disaster risk reduction and community based adaptation (iii) Promoting climatic change risk assessment and monitoring through vulnerability assessment, risk and hazard mapping (iv) Enhancing disaster risk preparedness through inter alia: production, acquisition and dissemination of weather and climate information services for improved early warning systems (EWS) (v) Promoting management of cross-border natural resource based conflict as a result of stress on water and pasture for pastoral communities (vi) Promoting the Disaster Risk Reduction (DRR) concept through the five priorities areas of the Hyogo Framework for Action (HFA), c) Energy (ii) Promoting of renewable energy technologies (solar power, wind energy) (vi) Enhancing energy efficiency and saving</p> <p>3.3 Climate change research and observation (monitoring, detection, attribution and prediction)</p>

	(i) Supporting modernization of meteorological infrastructure for climate change monitoring and detection
3. The East African Community Trans-boundary Ecosystems Management Bill, 2010 (EAC, 2010)	<p>Overall goal:- To provide for the management and regulation of trans boundary ecosystems of the East African Community and to establish a commission for the management of trans-boundary ecosystems and to provide for other related matters.</p> <p>3. Relevant objectives (c) Maintaining stable functioning relations between the living and non-living parts of the environment in trans-boundary ecosystems through preserving biological diversity, and respecting the principle of optimum sustainable yield in the use of natural resources in those ecosystems; (d) Reclaiming lost trans-boundary ecosystems and where possible reverse the degradation of natural resources in those ecosystems (h) Ensuring environmental awareness on trans-boundary ecosystems (j) Promoting international cooperation between the East African Community and other regional organizations in the management of trans-boundary ecosystems</p> <p>Schedule 2 - Identified and designated continuous trans-boundary ecosystems (v) - Serengeti-Mara, Amboseli-Kilimanjaro-Longido, and Tsavo West-Mkomazi/Umba Ecosystems</p>
b) International frameworks (MEAs)	
Name of framework	Relevant obligations for the Amboseli Management Plan
1. Seville Strategy for the management of Biosphere Reserves (UNESCO, 2003)	<p>Goal III: Research, monitoring, education and training Objective III(1): Improve knowledge of the interactions between humans and the biosphere a) Using the World Network of Biosphere Reserve (WNBR) and AfriMAB for collaborative programmes b) Encouraging interactions between the WNBR</p> <p>Objective III(2): Monitoring activities a) Encouraging and develop linkages with other BRs in the country and the world</p> <p>Objective III(3): Education and public awareness a) Exchanging of experience and information between BRs</p> <p>Objective III(4): Staff training a) Using WNBR to support local training b) Identifying representative BRs to serve as regional training centres</p>
2. Madrid Action Plan (2008-2013) for World Biosphere Reserves	<p>Action 52: Supporting the BRs to play a more visible role in improving access to information and new ways to communicate knowledge to non-scientific target groups: Target 23 - Launching specific UN-DESD programmes in BRs with a number of associated schools</p>
3. Convention on Biological Diversity (CBD Secretariat, 1992)	<p>Article 8 - In-situ conservation (d) Promoting protection of ecosystems, natural habitats and maintenance of viable populations of species in natural surroundings (j) Respecting, preserving and maintaining knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application</p> <p>Article 13 - Public education and awareness (a) Promoting and encouraging understanding on the importance of and the measures required for, the conservation of biological diversity, as well as its propagation and (b) Cooperating, as appropriate, with other States and international organizations in developing educational and public awareness programmes, with respect to conservation and sustainable use of biological diversity</p>
4. United Nations Framework on Combating Climate Change (UN, 1992)	<p>Article 6: Education, training and public awareness A(i) Development and implementation of educational and public awareness programmes on climate change and its effects</p>
5. United Nations Convention to Combat Desertification (UN, 1994)	<p>Article 4: General obligations 2(c) Integrating strategies for poverty eradication into efforts to combat desertification and mitigate the effects of drought</p> <p>Article 5: Obligations for affected countries b) Establishing strategies and priorities to combat desertification and mitigate the effects of drought (d) Promoting awareness and facilitate the participation of local populations, particularly women and youth, with the support of non-governmental organizations, in efforts to combat desertification and mitigate the effects of drought</p> <p>Article 10: National action programme 2(d) Enhancing national climatological, meteorological and hydrological capabilities and the means to provide for drought early warning 3(a) Establishment and/or strengthening, as appropriate, of early warning systems, including local and national facilities and joint systems at the sub regional and regional levels, and mechanisms for assisting environmentally displaced persons</p>

	<p>(b) Strengthening of drought preparedness and management, including drought contingency plans at the local, national, sub regional and regional levels, which take into consideration seasonal to inter-annual climate prediction</p> <p>(c) Establishment and/or strengthening, as appropriate, of food security systems, including storage and marketing facilities, particularly in rural areas</p> <p>(d) Establishment of alternative livelihood projects that could provide incomes in drought prone areas</p> <p>(e) Development of sustainable irrigation programme for both crops and livestock</p>
6. Ramsar Convention (UN, 1971)	<p>Article 3</p> <p>a) Formulating and implementing wetland planning so as to promote the conservation of wetlands</p>
7. Convention on Migratory Species (UN, 1979)	<p>Article 5</p> <p>l) Exchanging information on substantial threats to migratory species</p> <p>h) Elimination of, to the maximum extent possible, or compensation for activities and obstacles which hinder or impede migration</p>
8. World Heritage Convention (UN, 1972) - Mt Kilimanjaro World Heritage Site	<p>Article 27</p> <p>a) Strengthening the appreciation and respect by their peoples of the cultural and natural heritage defined in Articles 1 and 2 of the Convention</p> <p>b) Keeping the public broadly informed of the dangers threatening this heritage and of the activities carried on in pursuance of this Convention</p>
9. African Convention on the Conservation of Nature and Natural Resources (AU, 1968)	<p>Article II - Fundamental Principle</p> <p>2 (ii) Setting aside areas for the propagation, protection, conservation and management of vegetation and wild animals as well as for the protection of sites, land-spaces or geological formations of particular scientific or aesthetic value, for the benefit and enjoyment of the general public</p> <p>3.1 (a) Setting aside for the conservation, management and propagation of wild animal life and the protection and management of its habitat</p> <p>2(b) According special protection to those animal and plant species that are threatened with extinction, or which may become so, and to the habitat necessary to their survival</p>

c) National policies	
Name of policy	Relevant obligations for the Amboseli Management Plan
1. The Constitution of Kenya (GoK 2010c)	<p>Article 10 – Supporting participation of the people in the protection of marginalized lands and sustainable development.</p> <p>Article 42 – Supporting public involvement in ensuring the rights to a clean and healthy environment.</p> <p>Article 43 – Supporting public involvement in ensuring the need for every person to have access to clean and safe water in adequate quantities,</p> <p>Article 60 – Supporting public participation in land management especially within the principles of equitability, efficiency, productivity and sustainable land management practices.</p> <p>Article 69 - Environment and natural resources</p> <p>(1) (a) Ensuring sustainable exploitation, utilization, management and conservation of the environment and natural resources, and ensure the equitable sharing of the accruing benefits</p> <p>(b) Working towards the achievement and maintaining a tree cover of at least 10% of the land area of Kenya by the year 2030</p> <p>(d) Encouraging public participation in the management, protection and conservation of the environment</p> <p>(f) Supporting environmental impact assessment, environmental audit and monitoring of the environment</p> <p>(g) Eliminating processes and activities that are likely to endanger the environment; and</p> <p>(h) Utilizing the environment and natural resources for the benefit of the people of Kenya.</p> <p>Article 66 – Regulating use of any land ,or any interest or right over any land, in the interest of public health or public planning</p> <p>Article 69 – Ensuring sustainable exploitation, utilization, management and conservation of the environment and natural resources and ensure equitable sharing of the accruing benefits</p> <p>Article 185:</p> <p>22 - Protection of the environment and natural resources with a view to establishing a durable and sustainable system of development</p>
2. Sessional Paper No. 6 of 1999 on Environment and Development (GoK, 1999d)	<p>Forest Resources</p> <ul style="list-style-type: none"> Supporting increase of the total forest area <p>Wildlife Resources</p> <ul style="list-style-type: none"> Supporting the involvement of local communities and other users in wildlife conservation and management and developing mechanisms that allow communities to benefit from wildlife earnings <p>Wetlands</p> <ul style="list-style-type: none"> Supporting the development of integrated management plans for sustainable and multiple use of wetlands <p>Rangeland resources</p>

	<ul style="list-style-type: none"> Discouraging inappropriate conversion of ASALs into agriculture Promoting the integration of wildlife and livestock management Instituting measures to manage livestock within the carrying capacity of the land Promoting wildlife utilization as an alternative form of livelihood <p>Land degradation, drought and desertification</p> <ul style="list-style-type: none"> Developing drought and desertification monitoring and early warning systems <p>Water resources</p> <ul style="list-style-type: none"> Supporting the provision of water for wildlife livestock and domestic use Providing incentives for rain water harvesting <p>Human settlements</p> <ul style="list-style-type: none"> Regulating urban development to only those areas which are suitable, avoiding ecologically fragile areas Encouraging Kenyans to have family sizes which are sustainable <p>Other policy goals</p> <ul style="list-style-type: none"> Encouraging sustainable use of resources and ecosystems Protecting water catchment areas Adherence to the polluter pays principle Undertaking EIA for all private and public projects Increase public awareness on environment
3. Draft Environment Policy (2012) (GoK, 2012c)	<ul style="list-style-type: none"> Adopting measures, incentives and disincentives to promote the re-use, recycling and reclamation of re-usable packaging material and combats the pollution of the environment Supporting establishment of constructed wetlands for waste management Developing an integrated, improved early warning and response systems for climate change and disaster risks Developing and implementing Drought and Desertification Monitoring and Early Warning Systems Encouraging CDM investments for climate change mitigation Encouraging Kenyans to have family sizes which are sustainable. Formulating an innovative strategy to increase forest and tree cover from the current 2% to at least 10% by 2030 Promoting and institutionalizing payment for environmental services schemes to support watershed protection initiatives Supporting rehabilitation and restoration of degraded wetlands and forests Promoting the establishment of trans-boundary wildlife conservation Promoting application of sound environmental management tools, in particular strategic environmental assessment, EIA, environmental audits, environmental management systems, risk assessment/management and environmental reporting Protecting, conserving, and improving the habitats, corridors, and dispersal areas of wildlife Protection and sustainable management of shared/trans-boundary resources Supporting the establishment of community based conservation areas Working with private sector, NGOs and CBOs to enhance corporate and social responsibility and accountability
4. National Land Policy (2009) (GoK, 2009d)	<p>3.4.3.2: Ecosystem management and conservation principles</p> <ul style="list-style-type: none"> Surveying of all critical ecosystems to determine their sustainable land uses <p>13(b): Identifying, mapping and gazettement critical wildlife migration and dispersal areas and corridors in consultation with the local communities and individual land owners</p> <p>13(c): Encouraging the development of wildlife sanctuaries and conservancies and involve local communities and individuals living contiguous to the parks and protected areas in the co-management of such areas</p> <p>13(d): Providing mechanisms for resolving grievances arising from human/wildlife conflicts</p> <p>131 (d): Providing mechanisms for resolving grievances arising from human/wildlife conflicts</p> <p>Other policy goals:</p> <ol style="list-style-type: none"> Supporting Community land management and dispute resolution Promoting incentives for communities and individuals to promote resource conservation Supporting protection of forests Ensuring sustainable utilization and management of land and its resources 5. Supporting the implementation of environmental assessments and audits
5. National Water Policy (2012 Draft) (GoK, 2012f)	<ol style="list-style-type: none"> Ensuring increased per capita water availability above the international benchmark of 1000 m³ by 2030 Ensuring progressive restoration and protection of ecological systems and biodiversity in strategic water catchments Maximizing use of trans-boundary water resources in coordination with other riparian countries

	<p>d) Enhancing storm water management and rainwater harvesting</p> <p>f) Enhancing pollution control</p> <p>h) Enhancing enforcement of regulation and other IWRM actions</p> <p>i) Improve effluent waters treatment and recycle for use</p> <p>m) Ensuring that wetlands, flood plains with their associated biodiversity are safeguarded</p> <p>5.4: Ensuring public participation in all areas of water affairs, including right to be informed, representation in boards and water dialogue platforms</p> <p>4.3 (e) Ensuring the establishment of protected areas crucial for water storage</p> <p>Other policy goals:</p> <ul style="list-style-type: none"> • Ensuring emergency supply of adequate water to protected areas for wildlife use and recreation • Supporting rain water harvesting
<p>6. National Policy for the Sustainable Development of Arid and Semi-Arid Lands of Kenya (2012) (GoK,2012d)</p>	<p>3.4.2 Natural resource management</p> <ul style="list-style-type: none"> • Promoting low-maintenance water technologies, with an emphasis on water harvesting <p>3.4.5 Livelihood diversification and urban development</p> <ul style="list-style-type: none"> • Increasing the benefits to communities from tourism through the development of community-owned eco-tourism enterprises or conservancies <p>5.2.3.3 Security and the rule of law</p> <ul style="list-style-type: none"> • Strengthening traditional systems of governance and alternative dispute resolution mechanisms • Applying conflict-sensitive approaches to development • Putting in place measures to minimize human-wildlife conflict • Developing mechanisms with neighbouring countries which ensures effective management of peace and security <p>•Other policy obligations</p> <ul style="list-style-type: none"> • Halve, by 2015, the proportion of people without sustainable access to safe drinking water. • Supporting mobile herding systems as a rational, economically viable and efficient use of dry land resources
<p>7. Draft National Policy on Wetlands Conservation and Management (2013) (GoK,2013)</p>	<p>2.0: Wetland conservation and management</p> <p>Policy Statement 1: Ensuring that drainage and reclamation of wetlands is not allowed unless a greater public interest is demonstrated.</p> <p>Policy Statement 2: Ensuring that any alteration of a wetland for public interest will be subject to Environmental Impact Assessment (EIA), cost benefit analysis, and wide stakeholder consultations</p> <p>Policy Statement 5: Ensuring that uncontrolled burning of wetland biomass will be prohibited</p> <p>Policy Statement 6: Ensuring that priority will be given to subsistence and environmental needs before considering commercial interests.</p> <p>Policy Statement 7: Ensuring that site-specific participatory Wetland Management Plans are developed to guide the use of wetlands resources</p> <p>Policy Statement 1: Ensuring that the ownership of natural wetlands is vested in the state while recognizing legitimate rights of users who depend on them for their livelihoods</p> <p>Policy Statement 2: Ensuring that natural wetlands under private ownership will be subject to regulations</p> <p>Policy Statement 8: Ensuring that any land resulting from receding of natural wetlands shall continue to remain inalienable state land and be regarded as riparian land and shall not be allocated as private land</p> <p>Policy Statement 10: Ensuring that communal ownership of wetlands will be encouraged.</p> <p>2.2.2 Establishment of Wetland Conservation Areas (WCAs)</p> <p>Policy Statement 3: Ensuring that special wetland sites are designated and gazette as conservation areas to be protected as wetland reserves where no consumptive uses will be allowed</p> <p>Policy Statement 1: Promoting restoration and rehabilitation programmes for degraded wetlands</p>
<p>8. Draft Wildlife Policy (2011) (GoK, 2011)</p>	<p>4.2.2(4): Supporting the mainstreaming of SEA to guide sustainable development in wildlife conservation areas to minimize negative impacts on species, habitats and ecosystems</p> <p>11.3.2(3): Providing incentives to provide the under-represented gender into wildlife conservation careers and occupations</p> <p>11.6(2): Ensuring that workplace initiatives are adapted for people with HIV/AIDS</p> <p>8.5.3: Wildlife Security</p> <ul style="list-style-type: none"> • Putting in place a harmonized and appropriate regulatory framework, Standing Orders and Disciplinary Code for the general control, direction and management of the wildlife security countrywide • Strengthening wildlife security in wildlife conservation areas • Establishing and building the capacity of local communities to bolster security in wildlife conservation areas, including establishing and maintaining security bases • Establishing transparent and inclusive mechanisms for recruitment, management and monitoring of wildlife security agents countrywide. • Strengthening collaboration with local, regional, national and international law enforcement agencies in combating wildlife related crimes. <p>Other policy goals</p>

	<ul style="list-style-type: none"> Decentralization of wildlife planning to constituency level Developing an effective mechanism for sharing benefits including revenue with communities living adjacent to PAs. Developing and implement wildlife disaster preparedness, response and rescue strategy Developing measures for the conservation and management of wildlife species whose ranges are shared with neighbouring countries with priority being given to endangered and threatened species and species used by one or more of the countries concerned Developing recovery plans for the conservation and survival of endangered and threatened species Educating the public and raising awareness on the critical role of wetlands, rivers and lake ecosystems Supporting landowners and communities to set aside wildlife conservation areas and sanctuaries within the framework of approved land use plan of the area Ensuring good governance in the management of wildlife conservation areas and sanctuaries Erecting and maintaining game barriers and other approved deterrent measures to minimize HWCs Establishing and building the capacity of local communities to bolster security in wildlife conservation areas, including establishing and maintaining security bases. Establishing clear and easily recognizable boundary markers of PAs, which are monitored and controlled Establishing collaborative management arrangements and joint ventures that enhance local community and private sector involvement in the management of PAs. Identifying, designating and protecting linkage zones between isolated habitats, particularly wildlife migratory routes, corridors and dispersal areas through participatory processes and innovative schemes such as leases, covenants, easements and management agreements Incorporating or domesticating the provisions of the relevant wildlife related Multi-lateral Environment Agreements (MEAs) to which Kenya is a Party Promoting joint ventures in the conservation and management of wildlife conservation areas and sanctuaries. Providing adequate incentives to support landowners, local communities and other stakeholders to invest in wildlife conservation and management Putting in place mechanisms to identify, control and eradicate invasive alien species in wildlife conservation areas in collaboration with relevant lead agencies. Supporting compensation of wildlife damage to human, crop, livestock and property Supporting conservation education, public awareness and capacity building, in order to foster wildlife conservation and change of attitudes amongst local communities, schools and other interested groups Supporting the conservation and management of wetlands Supporting the development and implementation of approved management plans that incorporate multiple and compatible land use practices through participatory processes. Supporting the restoration of degraded wetlands, riverbanks and, where appropriate Support the establishment constructed wetlands in business areas
9. National Horticulture Policy 2010 (GoK, 201a)	<p>8.3 Environmental sustainability</p> <p>8.3.2 Relevant policy interventions</p> <p>ii) Enhancing environmental conservation and measures to mitigate the effects of climate change</p> <p>iii) Instituting appropriate measures to promote water harvesting, irrigation, recycling of water, and damming.</p> <p>8.6 Social sustainability</p> <p>i) Encouraging the private sector to undertake environmental CSR</p>
10. National Forest Policy (2005) (GoK,2005b)	<p>4.4.4 International obligations</p> <ul style="list-style-type: none"> Fostering close collaboration with neighbouring countries to ensure sustainable management of cross-border forests <p>Other policy goals:</p> <ul style="list-style-type: none"> Supporting the enforcement of regulations pertaining charcoal burning Regulating production and marketing of charcoal Collaborating with stakeholders in conservation and management of forests Rehabilitation of forests Establishment of nurseries and production of seedlings
11. National Policy for Disaster Management, 2009 (GoK, 2009e)	<p>2.1: Promoting the mainstreaming of disaster management and climate change into development planning and management for sustainability</p> <p>3.1: Providing for well-structured participation of society in disaster management by integrating traditional coping strategies into the DM systems</p> <p>Other policy goals:</p> <ul style="list-style-type: none"> Supporting climate change disaster risk reduction initiatives

12. National Gender and Development Policy, 2000 (GoK, 2000)	<ul style="list-style-type: none"> Considering the needs and aspirations of all Kenyan men, women, boys and girls across economic, social and cultural lines Ensuring the empowerment of women
13. National HIV Policy (GoK, 1997)	<ul style="list-style-type: none"> Ensuring that new development projects especially in the rural areas encourage preventive and responsible behaviour both for the workers involved in such projects and also the local people within which projects are taking place as a goal towards curtailing the spread of the disease
14. National Environmental Sanitation and Hygiene Policy (2007) (GoK, 2007a)	<p>4.3: Sanitation and the environment</p> <ul style="list-style-type: none"> Protection of the environment from pollution and its negative effect on human health Ensuring use of technologies that uphold the right of present and future generations to a healthy and pollution-free environment. Ensuring the use of sanitation systems that are environmentally sound Preventing environmental pollution from liquid and solid waste <p>Other policy goals</p> <ul style="list-style-type: none"> Setting of clear standards and guidelines for environmental sanitation Increasing environmental sanitation awareness across the country
15. Draft National Tourism Policy (2007) (GoK, 2007b)	<p>3.0: Ensuring that adequate resources are committed to improve and maintain safety and security in all tourism areas</p> <p>Other policy goals</p> <ul style="list-style-type: none"> Making tourism industry in Kenya a leader in responsible and sustainable environmental practices Promoting and developing land resources for tourism in a co-ordinated manner Developing facilities and products in national parks and game reserves Maximizing the co-ordination between conservation programmes of Government agencies and non-governmental organizations Developing integrated environmental management principles for all tourism and other major economic development projects Implementing, and promoting awareness among all tourism stakeholders
16. Draft National Policy on Peace Building and Conflict Management (2006) (GoK, 2006a)	<ul style="list-style-type: none"> Establishing and strengthen the community capacity to maintain effective systems for conflict early warning and early response

d) National legal frameworks	
Name of legal framework	Relevant obligations for the Amboseli Management Plan
1. Environmental Management and Coordination Act (EMCA) No. 8 of 1999 (GoK, 1999b)	<p>Section 42 – Supporting the protection of rivers and wetlands Section 44 – Supporting the protection of hilltops, hill sides, mountain areas and forests Section 50 – Supporting the conservation of biological diversity Section 51 – Supporting the conservation of biological resources in situ</p> <p>Specific integration obligations</p> <ul style="list-style-type: none"> Prohibiting and controlling the introduction of alien species into natural habitats Controlling and prevention of environmental pollution Supporting environmental restoration Supporting the creation or maintaining of wildlife migration corridors Carrying out EIA for all proposed projects with a potential for adverse impacts Carrying out environmental audit and monitoring of all activities that are likely to have significant effect on the environment Ensuring integration with all other relevant EMCA (1999) Regulations including the following:- <ul style="list-style-type: none"> The Environmental management and coordination (Noise And Excessive vibration Pollution Control) Regulation, 2008 Water Quality Regulations, 2006 (Legal notice No. 121) Waste Management Regulations, 2006 (Legal Notice No.121) Air Quality, Regulations, 2008 Fossil Fuel Emission Control Regulations (2006) Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit sharing Regulations (2006) Draft E-Waste Management, Regulations 2013
2. EMCA (Wetlands, river banks, lake shores and sea shore management) Regulations, 2009 (GoK, 2009a)	<ul style="list-style-type: none"> Ensuring that no person shall carry out any of the activities stipulated in Section 42 of the Act without a Wetland Resource Use Permit by the relevant lead agency and an Environmental Impact Assessment License issued by the Authority where applicable Supporting the enforcement of Section 42 (g) of the Act which prohibits the draining wetland Ensuring that every owner, occupier or user of land which is adjacent or contiguous to a wetland

	shall, with advice from the Authority, have a duty to prevent the degradation or destruction of the wetland, and shall maintain the ecological and other functions of the wetland
3. Physical Planning Act, Cap 286, of 1998 (GoK, 1998)	Section 29: Ensuring that developers to ensure proper execution and implementation of approved physical development plans Other legal obligations: <ul style="list-style-type: none"> Ensuring that subsidiary area plans are recognized and integrated in the Regional Physical Development Plans
4. Water Act, Cap 372 of 2002 (GoK, 2002)	Article 20. (1) Ensuring that state schemes shall take precedence over all other schemes for the use of water or the drainage of land Article 23. (1) Ensuring that community projects will not be approved unless:- <ol style="list-style-type: none"> The proposed project is approved by the persons owning or occupying at least two-thirds of the particular area concerned in the project; Provision is made by the project for an adequate alternative supply of water to be supplied to permit holders likely to be adversely affected and unable to benefit from the scheme 2) Ensuring that No permit for a community project shall be cancelled or varied except with official consent Other legal obligations <ul style="list-style-type: none"> Promoting the conservation and proper use of water resources Protection of any water resource, its source or catchment
5. Forest Act No. 7, of 2005 (GoK, 2005)	Part II Section 5 (i): Supporting the enforcement of the conditions and regulations pertaining to charcoal making and other forest utilization activities 37 (1): Enforcing legal obligation on the protection and management of all forests and woodlands Part IV: Community participation in forest management and conservation in Kenya Article 45 (2) (2): Supporting community participation in forest management and conservation through CFAs Other legal obligations <ul style="list-style-type: none"> Ensuring appropriate precautions to prevent forest fires Supporting PES initiatives for carbon sequestration and other environmental services
6. The Forest (Charcoal) Rules, 2009, Legal Notice No. 186 (GoK, 2009c)	14. Supporting the enforcement of the charcoal movement permit (1) Ensuring that no person shall, move charcoal or charcoal products from one place to another unless: <ol style="list-style-type: none"> The person is in possession of a valid charcoal movement permit issued under these Regulations and is operating in conformity with the terms and conditions of such permit; and The person has a certificate of origin for the charcoal the subject of the charcoal movement permit duly signed by the relevant association or person from whom charcoal is to be obtained;
7. Wildlife (Conservation and Management) Act Cap 376 of 1976, 1989 & Bill, 2013 (GoK, 2013)	16: (b) (c)(d)(e) (f): Supporting the formation of Wildlife Conservation Committees 31: (3): Supporting the appointment of Honorary wardens especially among the local communities 33 (c): Supporting the establishment of wildlife Development Fund for development of conservation areas 68:(4): Preventing development in a National Park without approved management plans Article 40. (1): Supporting communities, landowners, groups of landowners and existing representative organizations may establish a community wildlife association to facilitate conflict resolution and cooperative management of wildlife within a specified geographic region
8. Agriculture Act (GoK, 1955) Revised in 1986	Section IV - "The Preservation of the Soil and its Fertility" This section gives the Minister powers to prevent land degradation and to sustain soil productivity, pasture production and conserve water supplies. It also gives the Minister the authority to zone the land for specific crop production and conservation purposes -including prohibitions on cultivating river banks, steep slopes and regulating stocking rates to minimize erosion
9. Tourism Act, No. 28 of 2012 (GoK, 2012e)	Section 28: Supporting the establishment of the Tourism Protection Unit
10. Public Health Act, Cap 242 (GoK, 1986)	Article 129: Supporting the protection of public water supplies, meat, milk and other articles of food Article 117: Supporting the prevention or remedy danger to health from unsuitable dwellings by health institutions
11. Crop Production and Livestock Act, Cap 321 of 1926 (GoK, 2005c)	Artificial Insemination: Ensuring no person shall distribute or sell bull semen except under the authority of a license issued by the Director of Veterinary Services Culling Rules: Ensuring that all undesirable cattle shall be destroyed or disposed of Part III: Supporting the branding and culling of livestock
12. Energy Act No 12 of 2006 (GoK, 2006c)	Article 27 (2): Ensuring permits are secured in respect of supply of electrical energy to other persons or consumers and for a generating plant of over 1000kw intended for own use 67 (d): Promotion of renewable energy sources including solar and hybrid system 103 (b): Promotion development of renewable energy technologies including biomass, biodiesel, charcoal, solar and wind

13. Community Based Tourism Framework (2009) (GoK, 2009f)	Section 6.3: <ul style="list-style-type: none"> • Empowering communities to participate in tourism activities • Encouraging conservation of the natural environment • Providing partnerships between communities and private sector organizations • Supporting the conservation of resources through enterprise projects • Supporting environmental conservation and sustainable use of natural resources
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e) National strategic plans	
Name of strategic plan	Obligations for the Amboseli Management Plan
1. Local area management plans (e.g. GR and Conservancy Management Plans)	Local area management plans such as Group Ranch Management Plans, Conservancy Management Plans, Wetland Management Plans and Sub-Catchment Plans in the area are expected to align with the Amboseli Ecosystem Management Plan
2. Vision 2030 (GoK, 2008b)	The management plan is expected to support the following national environmental flagship activities:- <ol style="list-style-type: none"> Supporting carbon offset schemes Supporting schemes on compensation for environmental services Supporting the control of the spread of invasive species Supporting drought disaster preparedness and early warning Supporting enhanced crime data collation, analysis and storage in protected areas Supporting the increase of forest and tree cover to 10% by 2030 Supporting security in protected areas Supporting the reclaiming of wildlife corridors and migratory routes Supporting the rehabilitation, regeneration and restoration of degraded rivers Supporting water harvesting and storage
3. National Environment Action Plan (2009-2013) (GoK, 2009b)	The management plan is expected to support the following national environmental activities:- <ol style="list-style-type: none"> Enhancing the protection of wildlife resources Reforestation and conservation of water catchment areas Supporting the increasing of forest cover in Kenya Protection of flora & fauna Integrating environmental concerns into regional and local development plans Promoting appropriate land use practices Ensuring protection of water catchments Supporting soil erosion and siltation control Management of invasive alien species Controlling sand harvesting Promoting efficient water harvesting, storage and usage Management of trans boundary forest resources Controlling of fire outbreaks
4. National Biodiversity Strategy and Action Plan (2000) (GoK, 2000b)	The management plan is expected to support the following national environmental strategic actions:- <p>4.1.2: Gender concerns - Promoting gender awareness and involvement in all biodiversity programme and projects</p> <p>4.3.1: Supporting in situ conservation within protected area</p> <p>4.3.2: Supporting in situ conservation outside protected areas</p> <p>4.6: Supporting sustainable use of components of biological diversity</p> <p>4.9: Ensuring public awareness and education on biodiversity conservation</p> <p>4.3.2: Protection of sites of high biological diversity outside the protected area system because they may be habitats for unique endemics.</p> <p>Other activities</p> <ul style="list-style-type: none"> • Improving and maintain security in order to facilitate biodiversity conservation and bioprospecting. • Promoting and sustaining security in protected areas • Developing strategies for protected areas • Instituting conflict resolution mechanisms to deal with potential conflicts of interest • Adopting best practices in conservation and management of natural resources
5. National Master Plan for the Conservation and Sustainable Management of Water Catchment Areas in Kenya (2012), (GoK, 2012b)	The management plan is expected to support the following national environmental actions:- <ul style="list-style-type: none"> • Supporting the rehabilitation, protection and conservation of important water catchment areas to address the problem of water availability and sustainable use

<p>6. National Conservation and Management Strategy for Elephants in Kenya (2012-2021) (KWS, 2012)</p>	<p>The management plan is expected to support the following national strategic actions:-</p> <p>3.3 Strategic Objectives</p> <p>3.3.1 Elephant protection</p> <p>Target 1.1 Supporting the reduction of the proportion of illegally killed elephants (PIKE) per annum to less than 1%</p> <p>Target 1.3 Supporting the improvement of community engagement by the security force in protecting elephants</p> <p>Target 1.4 Improving the cross-border protection of elephants</p> <p>3.3.2 Population expansion and habitat maintenance</p> <p>2.1 Supporting efforts for increasing national elephant distribution by at least 30% by 2020</p> <p>2.2 Supporting the efforts for increasing elephant numbers by at least 2% per annum in areas where suitable habitat for recovery exists</p> <p>2.3 Supporting efforts to improve altered habitats in elephant range by 2021</p> <p>2.4 Ensuring that at least 10 corridors, including cross-border ranges, and buffer zones established and maintained, along with existing buffer zones and corridors</p> <p>3.3.4 Human Elephant Conflict (HEC)</p> <p>4.2 Ensuring that protection from elephant damage of crops and property on the boundaries of elephant distribution range significantly improved</p> <p>4.3 Ensuring that corridors are secured in areas of existing or potential HEC by 2021</p> <p>3.3.5 Incentives</p> <p>5.2 Ensuring increased income generation from tourism in elephant conservation areas across Kenya</p> <p>5.3 Ensuring more sustainable compensation, consolation and insurance mechanisms against losses from elephant damage are successfully implemented</p> <p>5.4 Ensuring that at least 30% of existing unprotected elephant range in arid or semi-arid lands is protected under community conservation governance structures</p> <p>5.5 Ensuring improved livestock management, grazing systems, optimal cattle densities and market penetration among pastoralist occupied parts of Kenya's elephant range</p> <p>5.6 Ensuring that the potential for elephant compatible enterprise options are understood and supported</p> <p>3.3.6 Capacity</p> <p>6.5 establish innovative approaches for raising funds for elephant conservation and management implemented by 2021</p> <p>Other obligations</p> <ul style="list-style-type: none"> Ensuring security management of ivory stocks to prevent trophies leaking into illegal market and enhanced monitoring of elephants using appropriate technologies (fitting satellite collars to vulnerable elephant groups including cross-border populations) Ensuring stakeholder involvement in elephant conservation and management
<p>7. National Conservation and Management Strategy for the Black Rhino and Management Guidelines for the White Rhino in Kenya (2007-2011) (KWS, 2007)</p>	<p>The management plan is expected to support the following national strategic actions:-</p> <p>Overall Goal</p> <ul style="list-style-type: none"> Supporting efforts to ensure that the total black rhino numbers reach 700 rhinos by 2011 towards the vision of 2000 rhinos as a minimum viable meta population Ensuring that by 2016, numbers of black rhino in Kenya reach close to 900 animals <p>3.3.2: Protection</p> <ul style="list-style-type: none"> Supporting efforts to minimize rhino poaching through effective enforcement Supporting efforts to ensure that security staff in private and community sanctuaries are enlisted in the Kenya Police Reserve (KPR) to enhance powers and legal status <p>3.3.3: Monitoring</p> <ul style="list-style-type: none"> Collaborating with the AfRSG Rhino Monitoring Training Programme which is being used in all rhino conservation areas <p>3.3.6: Community</p> <ul style="list-style-type: none"> Developing mechanisms for linking good-will projects to rhino conservation Ensuring that local community leaders are involved in rhino events such as translocations and census to promote rhino conservation Effective engagement with communities surrounding rhino conservation areas for improved land use practices Ensuring that rhino education and awareness information packs are developed in local languages and provided to relevant stakeholders including communities
<p>8. National Conservation and Management Strategy for Lions and Spotted Hyenas (KWS, 2010)</p>	<p>The management plan is expected to support the following national strategic actions:-</p> <p>Goal: To restore and maintain robust and connected populations of lions, spotted hyenas and their wild prey, while minimizing conflict and maximizing benefits to local communities.</p> <p>a) Education and awareness</p> <p>Objective 2: Working with communities to enhance awareness and promote coexistence with the two species</p>

	<p>Target 2.2. Supporting outreach programme developed and implemented in lion and hyena ranges areas</p> <p>Objective 3: Changing negative perceptions on the species</p> <p>Target 3.2. Ensuring linkage with local institutions (inclusive of CBOs) and media</p> <p>Objective 4: Enhancing conservation education in learning institutions</p> <p>Target 4.1. Reviewing school outreach programmes to incorporate lion and hyena conservation issues</p> <p>b) Land use and conflict</p> <p>Objective 5: Advocating and lobbying for a national land use policy that integrates socio-economic development and conservation of habitat for lion, hyena and their prey</p> <p>Objective 6: Minimizing human - lion/hyena conflict and related issues</p> <p>Target 6.1. Reducing human–lion/hyena conflict by 50%</p> <p>c) Policy and legislation</p> <p>Objective 7: Developing and implementing conservation and management policy on lions and hyenas in both protected areas and non-protected areas</p> <p>Target 7.2. Developing conservation area-specific management plans for Lions and spotted hyenas</p> <p>Target 7.4. Promoting international cooperation on conservation and management of cross border (shared) populations of lions and hyenas</p>
9. Nairobi Metro 2030 (GoK, 2008a)	<p>3.3.5 Green zones</p> <ul style="list-style-type: none"> Supporting the County Government to increase forest cover within its area of jurisdiction to 30% by 2030 <p>3.3.6 Ecological and conservation areas</p> <ul style="list-style-type: none"> Supporting gazettelement and protection by County Government of ecologically fragile and conservation areas in the NMR as part of the effort aimed at reducing the region's ecological footprint <p>4.1.3.3 Bringing the world to the NMR through tourism initiatives</p> <p>2. Expanding Park Tourism</p> <p>c) Protecting conservation areas from human and other encroachment</p> <p>3. Developing and implementing a Heritage Tourism Initiative</p> <p>a) Identifying, documenting, gazetting and preserving valued heritage and sites within the NMR;</p> <p>c) Supporting promotion of cultural tourism</p>
10. Agricultural sector Development Strategy 2010-2020 (GoK, 2010d)	<p>6.3 Developing Northern Kenya and Other Arid Lands</p> <ul style="list-style-type: none"> Diversifying income sources for pastoral communities Harnessing water to increase access for domestic use, livestock and wildlife by promoting water harvesting through constructing dams, pans and tapping run-off from roads and roof-tops Strengthening community-led natural resource management, including the use of cross-border grazing and browse resources, through collaborating and harmonizing sanitary measures with neighbouring countries Promoting the keeping of camels and other non-traditional livestock such as ostrich and wildlife through game ranching and sanctuary management will also be promoted Supporting rain fed production for emerging high-value, drought-tolerant crops such as <i>Jatropha</i>, <i>Melia</i>, indigenous fruits, medicinal species, <i>gum arabica</i> and resins Promoting diversification of income and employment sources including enhancing livestock value-adding projects such as processing meat, milk, honey, hides, skins and bone, as well as soap and oil making <p>6.4 Improving management of the environment and natural resources</p> <ul style="list-style-type: none"> Improving environmental conservation Improving pollution and waste management Enhancing conservation and management of resources Implementing the national climate change response strategy Supporting the establishment of wildlife conservancies and game farming as a land use under local community management <p>6.6 Forestry and wildlife resources</p> <ul style="list-style-type: none"> Developing and implementing appropriate mechanisms for protecting, conserving and sustainably managing forest resources Developing and implementing appropriate mechanisms for protecting, conserving and sustainably managing wildlife resources Strengthening forest and wildlife research, extension and training

11. National Climate Change Response Strategy (2009) (GoK, 2010b)	The management plan is expected to support the following national strategic actions a) Water resources <ul style="list-style-type: none"> Supporting the construction of dams and water pans Supporting the protection of water towers, river banks, and water bodies Supporting the de-silting of riverbeds and dams Improving municipal water recycling facilities b) Livestock/pastoralism <ul style="list-style-type: none"> Supporting developing special livestock insurance schemes c) Physical Infrastructure including transportation and telecommunication networks <ul style="list-style-type: none"> Ensuring that all new infrastructure is climate-proof over its lifespan
12. National Tourism Master Plan (GoK, 1995)	3.1 Security <ul style="list-style-type: none"> Expansion and maintenance of security on our roads Improving safety and security of tourists and wildlife.

3.5: PPP ANALYSIS

This analysis involved a counter check of all the 250 proposed activities in the management plan (namely 54 activities in the Ecological Management Programme, 49 activities in the Tourism Development and Management Programme, 83 activities in the Community Program, 20 activities in the Security Program, and 44 activities in the Ecosystem Operations Program) against the environmental obligations in the 53 obligatory PPPs identified for the SEA process. The environmental obligations which were not effectively considered in the 250 plan activities were considered as PPP gaps.

Additionally, the level of integration for environmental PPPs was calculated numerically in terms of the percentage of the obligatory PPP obligations which were considered in the programme activities. For example, the Ecological Management Programme had a total of 53 programme activities, which were counter-checked against the each of the standard 356 environmental obligations from the PPP framework. Percentage non-integration was computed as the total number of PPP obligations which were not considered in the 49 programme activities divided by 356 multiplied by one hundred. For example, in the Kenya Constitution which had a total of 12 environmental obligations as shown below, 8 of these were well considered in the Ecological Management Programme activities but 4 were not which was equivalent to 0.6% ($4/53 \times 100$) as shown below.

Box 3- 1: Illustration on the calculation of percentage PPP non-integration

Name of policy	Relevant obligations for Amboseli Management Plan	Activities in the Amboseli Management Plan	Gap percentage computation
The Constitution of Kenya	Article 10 – Supporting participation of the people in the protection of marginalized lands and sustainable development.	✓	(4/53x100)=7.5 %
	Article 42 – Supporting public involvement in ensuring the rights to a clean and healthy environment.	✓	
	Article 43 – Supporting public involvement in ensuring the need for every person to have access to clean and safe water in adequate quantities,	✓	
	Article 60 – Supporting public participation in land management especially within the principles of equitability, efficiency, productivity and sustainable land management practices.	✓	
	Article 66 – Regulating use of any land ,or any interest or right over any land, in the interest of public health or public planning	X	
	Article 69 - Environment and natural resources	✓	
	(1) (a) Ensuring sustainable exploitation, utilization, management and conservation of the environment and natural resources, and ensure the equitable sharing of the accruing benefits		
	(b) Working towards the achievement and maintaining a tree cover of at least 10% of the land area of Kenya by the year 2030	X	
	(d) Encouraging public participation in the management, protection and conservation of the environment	✓	
	(f) Supporting environmental impact assessment, environmental audit and monitoring of the environment	✓	
	(g) Eliminating processes and activities that are likely to endanger the environment;	X	
	h) Utilizing the environment and natural resources for the benefit of the people of Kenya	✓	
	Article 185: 22 - Protection of the environment and natural resources with a view to establishing a durable and sustainable system of development	X	

3.6: BASELINE SITUATION ANALYSIS

The baseline situation analysis was undertaken through a comprehensive ground inspection conducted in the Amboseli Ecosystem between 13th and 19th October 2013. The inspection considered most parts of the ecosystem which were accessible through drive-through-transects in the area including the following; a) Amboseli National Park, b) Loitokitok-Kuku-Kimana-Namelok, Endoinet-Elerai-Kitengen, c) Mbirikani-Chyulu, d) upper part of Rombo, e) Kimana area including the Sanctuary and neighbouring group ranches and wildlife barrier fence, and (f) Loitokitok Airstrip-Tsavo transect up to Itlal. The drive-through-transects were undertaken by the consultants accompanied by various key informants who were local people thoroughly conversant with the area and current environmental issues. The baseline situation analysis was focused on the key issues associated with the various objectives contained in the five management programmes in the AEMP. The baseline situation analyses as well as the field reconnaissance undertaken at the beginning of the SEA process were also used as platforms for stakeholder analysis.

3.7: STAKEHOLDER ENGAGEMENT AND CONSULTATION

Stakeholder consultations for the Amboseli Plan SEA were undertaken between 21st and 26th, October 2013. This involved direct interactions with different representatives of the ecosystem stakeholders in Amboseli as identified during the orientation field mission and baseline situation analysis. The scope for the interactive consultations involved the following stakeholder clusters:-

- a) Government officers and Parastatals - Olkejuado County Government, NEMA, KWS, WRMA, KFS, KPLC, Lands, Physical Planning, Tourism Department, Livestock, Education, Health, Roads
- b) KWS and Amboseli National Park Management
- c) Group Ranches and Conservancies as follows:-
 - o ATGRCA
 - o Ranches - Olgulului, Mbirikani, Kuku, Kimana, and Rombo
 - o Conservancies - Kilitome, Kitirua, Kimana, Porini, Elerai, Rombo
 - o Amboseli/Tsavo Game Scouts Association
- d) Amboseli Ecosystem Trust (AET)
- e) African Conservation Centre (ACC)

- f) African Wildlife Foundation (AWF)
- g) Amboseli Conservation Program (ACP)
- h) International Fund for Animal Welfare (IFAW)
- i) Big Life Foundation
- j) School for Field Studies (SFS)
- k) Tourism Sector Stakeholders including the following:-
 - o Amboseli Serena Lodge, Tawi Lodge, Satao-Elerai Lodge, Ol Donyo Lodge
 - o Curio shop owners and cultural villages
- l) Water Resource User Associations (WRUAs)
- m) Agricultural communities (mostly through the WRUAs)
- n) Urban stakeholders especially in Kimana town, Isinet and Namelok with special interest on urban developers and peri-urban
- o) Cross-border stakeholders in Tanzania through email
 - o NEMC
 - o TANAPA

The focus in the stakeholder consultations was mainly on the modalities for integration of the gaps identified in the PPP analysis. Specifically, the stakeholders helped to:- a) establish why the environmental obligations identified in the PPP analysis on the basis of the PPP framework in Section 3.4, were not effectively considered in the AEMP and b) collate stakeholder inputs on additional or alternative plan activities which could be introduced in the plan as alternative options for addressing the PPP environmental obligation gaps in (a) above, and c) capture any additional environmental public concerns with regard to the AEMP. The information gathered was eventually used to fill the gaps in the PPP analysis before the final environmental integration levels were computed.

3.8: INDICATORS AND TARGETS FOR PLAN ENVIRONMENTAL IMPACT ANALYSIS (PEIA)

Table 3-2 shows the list of environmental indicators and targets which were used in the PEIA. The indicators and targets were identified mostly from the information and realities on the ground as gathered during the baseline situation assessment.

Table 3- 2: Indicators and targets for plan environmental impact analysis (PEIA)

Impact category	Environmental Indicators	Environmental targets
Physical impacts	Range degradation	Reversing the current degradation
	Land subdivision	Reducing or stopping the sub-division
	Degradation of water resources in terms of quantity and quality	Sustainable utilization and equitable sharing. This includes enhancing conservation/protection of key water sources/catchment areas
	Climate change mitigation and adaptation	Improving the level of community preparedness and discouraging environmentally destructive land uses whose impacts could eventually amplify the effects of climate change
Biological impacts	Protection of wildlife corridors	Restoration of traditional corridors as well as securing and prohibiting their destruction and encroachment
	Protection of threatened species	Conservation of threatened species
	Protection of springs and wetlands	Conservation of springs and wetlands
	Sustenance and expansion of conservancies	Establishment of additional conservancies for the sustenance of traditional wildlife corridors dispersal areas and routes
	Ecosystem connectivity	Maintaining the traditional ecosystem linkages, integrity, functions and ecological processes
	Environmental rehabilitation	Restoration of the Amboseli ecosystem into a high quality environment
Social impacts	Sustainable alternative livelihoods	Improving community livelihoods
	Poverty reduction	Reducing poverty at household level
	Resource conflict alleviation	Elimination of resource conflicts

Economic impacts	Equitable ecosystem benefit sharing	Equitable resource and tourism revenue sharing
	Boosting county economy	Supporting the Olkejuado County economy
	Boosting Vision 2030	Supporting the realization of the goals of Vision 2030
Institutional and transboundary impacts, international implications and public interest	Regional cohesion and partnerships	Improved and sustained collaborative trans-boundary environmental management
	Implementation of MEAs	Supporting the implementation of MEAs in Kenya
	Public interests	Embracing public concerns in the management plan
	Institutional integration and capacity	Improved cross-sectoral integration

Impact characterization was undertaken by considering the following attributes:- a) level of impact (ecosystem-wide, group ranch centred or in Amboseli National Park), b) probability and risk of occurrence, c) duration of impact, d) magnitude, e) impact reversibility, and f) level of importance.

3.9: IDENTIFICATION OF ALTERNATIVE PPP OPTIONS

The identification of alternative PPP options was considered in order to determine the most effective way to improve the long-term outcome of the AEMP implementation process. The identification of alternative PPP options was mostly undertaken on the basis of the following considerations:

- a) Enhancing the level of integration with obligatory PPP environmental issues. This is necessary in order to ensure that the Amboseli Management Plan is properly aligned to the overall goals, principles and plans for environmental sustainability in Kenya,
- b) Considering a broader range of alternative programme activities especially at the downstream project level in order to fully accommodate the stakeholders' interests,
- c) Elimination, downscaling or modification of any programme activities with a potential for adverse environmental impacts.

The identification of alternative PPPs was undertaken through a combination of methods including PPP gap analysis, expert judgment, NEMA obligations and key stakeholder inputs and contributions during the SEA Dialogue Workshop.

4. DESCRIPTION OF BASELINE SITUATION

4.0: INTRODUCTION

The baseline validation ground inspection was conducted throughout the Amboseli Ecosystem between 13th and 19th October 2013 as explained in Section 3. The situation analysis was carried out in order to understand the likely environmental and social impacts of the AEMP during its implementation. This was achieved by comparing the current environmental, social and economic baseline and likely trends during implementation of the AEMP. The baseline situation analysis was undertaken in accordance with each of the five programmes in the AEMP with the aim of clearly determining the following: - a) current state of environment, b) key environmental challenges, and c) potential future ecosystem scenarios. The findings are presented in headings arranged in accordance with the various programme objectives in the AEMP.

4.1: ECOLOGICAL MANAGEMENT

4.1.1: State of environment

4.1.1.1: Critical wildlife dispersal areas and corridors

The baseline validation inspection considered 5 wildlife corridors and dispersal areas, namely a) Kimana-Kuku area, b) Elerai-Kilimanjaro area, c) Kitenden-Longido zone, d) Mbirikani-Chyulu region, and e) Rombo-Tsavo West area as shown in Figure 4-1. Table 4-1 gives a summary of the key findings from the baseline situation analysis and validation inspection.

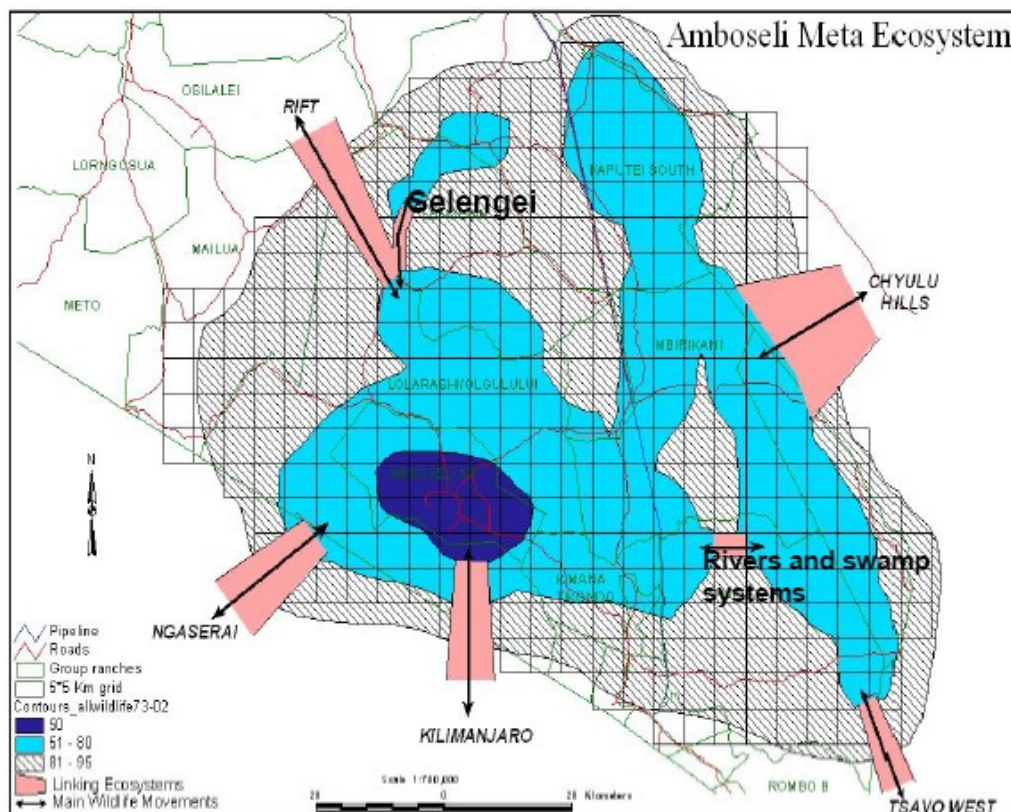


Figure 4- 1: Wildlife corridors and dispersal areas in the Amboseli Ecosystem (KWS, 2008)

Table 4- 1: State of the environment in key wildlife corridors and dispersal areas in the Amboseli Ecosystem

Wildlife dispersal and corridor	General state of environment	Key environmental challenges
Kimana-Kuku	Bad and deteriorating	<ul style="list-style-type: none"> • Overstocking • Land subdivision and sale especially in the former Kimana/Tikondo Group Ranch • Restoration of the collapsed Kimana and Namelok electric wildlife barrier fences in order for them to sustainably reduce human-wildlife conflicts in the two critical farming zones • Expansion of Maasai cluster settlements coupled by mushrooming urban centres such as Namelok and Inkisanjani • Prevalence of soil erosion • Loss of important grasses species which affects availability of grazing good resources • Prevalence and expansion of farming activities
Elerai-Kilimanjaro	Average	<ul style="list-style-type: none"> • Observations in the neighbourhood of Elerai Conservancy towards the Kenya-TZ border revealed a high concentration of human settlements and farming activities • Environmental degradation in water zones such as boreholes and livestock watering points (Plate 1) • Expansion of human cluster settlements • Proliferation of land sub-division (IFAW is trying to address this problem) • Prevalence and expansion of farming
Kitenden-Longido	Average but deteriorating	<ul style="list-style-type: none"> • Overstocking in some areas • Environmental degradation in water zones such as boreholes and livestock watering points • Expansion of human cluster settlements • Prevalence and expansion of farming • Proliferation of land sub-division (AWF is trying to address this problem including the prevalence of farming activities especially near the TZ border) • Loss of important grasses species which affects availability of good grazing areas
Mbirikani-Chyulu	Poor	<ul style="list-style-type: none"> • Overgrazing and soil erosion especially along the water pipeline. Enquiries revealed that that soil erosion is actually quite prevalent in most parts of the Mbirikani Group Ranch • Loss of important grasses species which affects availability of good grazing areas • Environmental degradation along the pipeline zone and livestock watering points (Plate 2) • Expansion of human cluster settlements • Recent mushrooming irrigated agriculture farms especially along the pipeline and its environs
Rombo-Tsavo	Average	<ul style="list-style-type: none"> • Overgrazing in some areas • Illegal charcoal burning • Unsustainable irrigation along the river-ways and around the water springs



Plate 1: Land degradation around a borehole in the Elerai area



Plate 2: Dustbowls in Mbirikani along the water pipeline

In the recent past, a variety of community conservancies have been established in the group ranches of the Amboseli Ecosystem in order to secure and conserve the wildlife corridors as shown in Table 4-2. Some of them are fully functional while others are only running at relatively disorganized manner due to weak or uncertain funding and technical challenges. In addition, some private conservancies have also been established such as Elerai Conservancy situated near Amboseli National Park towards Mt. Kilimanjaro which was started in the 1980's with support from AWF and KWS COBRA Program (Conservation of Bio-diverse Resource Areas). The Conservancy which borders the Kenya-Tanzania border near and is owned by 8 related families who have set aside their land for wildlife conservation and tourism investment opportunities. Similarly, Oltiyani is a private conservancy arising from sub-divided land from the former Kimana Group Ranch. It was established in 2000, and is owned by about 85 members (families), and each member has contributed approximately 60 acres of land for the formation of the conservancy. The members opted to merge their individual parcels so as to have multiple gains such as; securing land for their children, conservation of plant resources to meet their livelihood needs, pastoralism and ecotourism benefits through wildlife conservation. The baseline situation analysis established that most conservancies were characterized by a better state of environment (**Plate 3**).

Table 4- 2: Community Conservancies in the Amboseli Ecosystem

Group Ranch	Conservancy/Sanctuary
1. Mbirikani	Conservation land has been identified
2. Olgulului Ololarashi	Kitirua, Ilaingarunyoni and Osewan
3. Kuku	Motikanju
4. Former Kimana/Tikondo	Kilitome, Osupuko, and Kimana Sanctuary
5. Eselengei	Selengei Conservancy
6. Rombo	Rombo Emampuli (Proposed)



Plate 3: State of environment in Elerai Conservancy

4.1.1.2: Management and protection of swamps and river systems in collaboration with stakeholders

The baseline validation inspection considered the following swamps and river systems in the Amboseli Ecosystem:

- a) Ol Tukai Swamp (ANP)
- b) Loginye Swamp (ANP)
- c) Engong Narok Swamp (ANP)
- d) Nolturesh River and main water intake
- e) Ilkisonko River
- f) Isinet River and Swamps
- g) Kimana River and Swamps
- h) Namelok Swamps
- i) Nalepo River (Rombo)

Table 4-3 gives a summary of findings on the baseline validation

Table 4- 3: State of environment in key rivers and wetlands in the Amboseli Ecosystem

River/Swamp	General state of environment	Key environmental challenges
Amboseli swamps	Very poor	<ul style="list-style-type: none"> Declining swamp area Widespread loss of swamp vegetation due to heavy use by wildlife and livestock (Plate 4) Reduction in available water and deteriorating quality Given that all the swamps and rivers in the ecosystem get their water from Mt. Kilimanjaro, climate change and variability is therefore a key environmental challenge WRMA staff are experiencing challenges in their hydrological monitoring work inside the park because they are required to pay the park entry fee in order to conduct official work due to weak institutional collaboration
Nolturesh River	Very poor	<ul style="list-style-type: none"> Most of the river has been diverted into the Emali-Sultan Hamud-EPZ water pipeline (Plate 5) Severe riverbank degradation coupled by prevalence of soil erosion and loss of riparian vegetation Emergence of irrigated agriculture coupled by high levels of water abstraction (Plate 6) Loss of wildlife habitats through agricultural encroachment Heavy use of agro-chemicals along the river in the farms The sharing of water from this river with users outside the ecosystem is likely to cause water related conflict in the near future A Water Resources User Association (WRUA) has been established but needs strengthening for effective stakeholder collaboration
Ilkisonko River	Poor	<ul style="list-style-type: none"> Unsustainable dryland irrigation and massive water abstraction Severe river bank degradation coupled by prevalence of soil erosion and loss of riparian vegetation A Water Resources User Association (WRUA) has been established but needs strengthening for effective stakeholder collaboration
Rombo River	Deteriorating	<ul style="list-style-type: none"> Widespread encroachment especially near the Illasit Trading Centre Widespread abstraction of water for irrigation Unsustainable furrow irrigation methods A Water Resources User Association (WRUA) has been established but needs strengthening for effective stakeholder collaboration
Isinet River & Swamps	Deteriorating	<ul style="list-style-type: none"> Widespread diversion of river water for irrigation with cases of water abstraction using pumps even in key water springs Unsustainable furrow irrigation methods Loss of wildlife habitats through agricultural encroachment (Plate 7) Heavy use of agro-chemicals along the river in the farms

Kimana River & Swamps	Deteriorating	<ul style="list-style-type: none"> • Widespread diversion of river water for irrigation (Plate 8) • Numerous water pumps especially between Kimana SFS camp and the entrance to Kimana sanctuary near the bridge to Isinet • Unsustainable furrow irrigation methods • Loss of wildlife habitats through agricultural encroachment • Heavy use of agro-chemicals along the river in the farms • Prevalence of sheet erosion along the river bank • A Water Resources User Association (WRUA) has not been established in order to enhance stakeholder collaboration
Namelok Swamps	Poor	<ul style="list-style-type: none"> • Widespread water abstraction and diversion for dryland irrigation • Destruction of the papyrus swamp vegetation • Unsustainable furrow irrigation methods • Loss of wildlife habitats through agricultural encroachment



Plate 6: Dryland furrow irrigation in the Nolturesh watershed



Plate 7: Intensive irrigation at Isinet Swamps



Plate 8: River diversion in Kimana

4.1.1.3: Conservation of AE threatened large mammal species

The baseline validation inspection concentrated on the elephants, rhinos and top carnivores.

a) Elephants

During the entire baseline validation inspection, elephants were only sighted in two places, namely the Amboseli National Park mostly within the swamp environments and in Elerai Conservancy near the Satao-Elerai Lodge (**Plate 8**). The high concentration of elephants in the Amboseli Swamps indicated a heavy herbivory impact on the swamp vegetation with most of the original macrophytes having been cleared up to the water surface. Elephant footprints were sighted in a number of dispersal areas and corridors especially Rombo-Tsavo, Elerai Conservancy and Kitengen Corridor. This indicated the importance of these landscapes for the regular movements of elephants in the wider region.

b) Rhinos

There was no evidence of rhinos during the baseline validation inspection even within the Mbirikani-Chyulu transect.

c) Top carnivores

There was no evidence of top carnivores such as lions, leopards, cheetah and hyena during the baseline validation inspection although the local people confirmed their presence during public consultations.



Plate 8: Elephants at Satao-Elerai Lodge

4.1.1.4: Ecological monitoring and research information dissemination

The baseline validation inspection established that the Amboseli National Park has a Resident Research Scientist but the park unlike Masai Mara does not have a research station. However, a number of research programmes are taking place in the Amboseli Ecosystem. These include the Amboseli Research and Conservation Programme (ARCP) which is led by Dr. David Western, Amboseli Elephant Research

Project which is directed by Joyce Poole, and the Amboseli Baboon Research Project (ABRP) which is an over 40 year of continuous longitudinal research on the yellow baboons of the Amboseli ecosystem. The ABRP is coordinated by Dr. Jeanne Altmann of the USA. The baseline survey did not establish the existence of very clear mechanisms for information dissemination especially beyond the institutional realms of KWS. However, the ARCP has good opportunities through the ACC offices in Loitokitok as well as the head office in Nairobi.

4.1.2: Key environmental challenges

4.1.2.1: Securing critical wildlife dispersal areas and corridors within the Amboseli Ecosystem

- Human and livestock population has increased tremendously in the group ranches which have traditionally sustained important wildlife habitats and resources (food and water), dispersal areas and migratory corridors. The population of Maasai settlements has increased and become more sedentary thereby leading to increased number of livestock (cattle, sheep and goat) due subsistent pastoralists entering the market economy. The expansion of Maasai cluster settlements in response to human population increase is threatening the long term sustainability of wildlife habitats, dispersal areas, and corridors.
- One of the major challenges is the need to keep the group ranches around Amboseli National Park open for wildlife dispersal and critical migration routes for wildlife movements between the park and other protected areas in the region especially the Chyulu hills, Tsavo National Park and the Mount Kilimanjaro. Figure 4-2 shows the all season spatial distribution of wildlife in the ecosystem. The long term all season distribution pattern of wildlife in the area clearly shows that Amboseli National Park cannot survive without the wildlife dispersal areas in the group ranches.

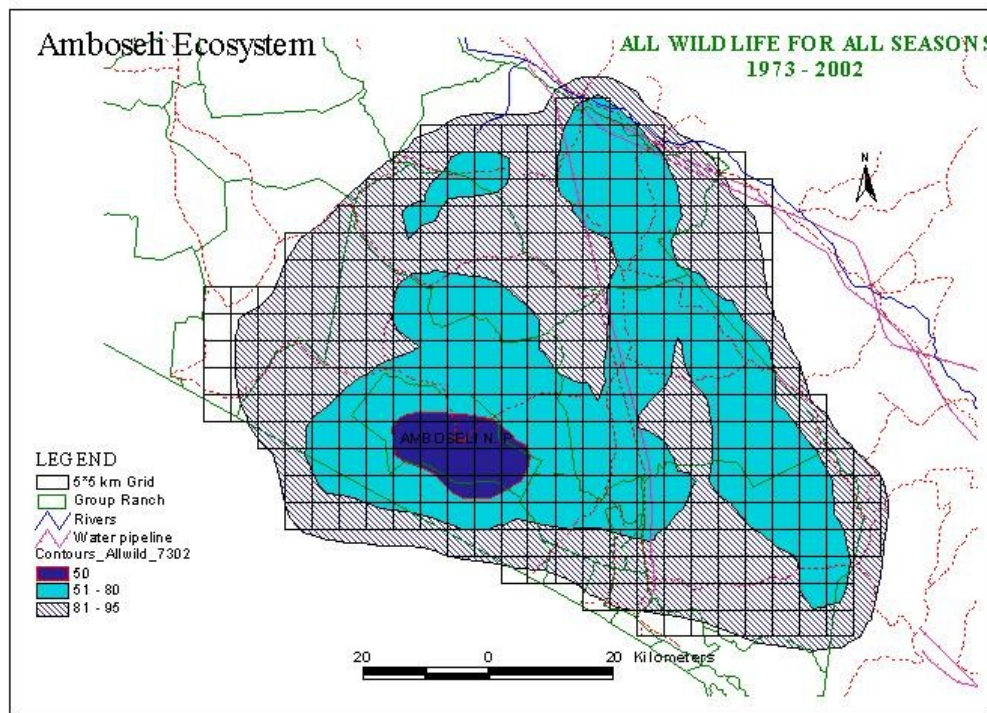


Figure 4- 2: All season spatial wildlife distribution in the Amboseli Ecosystem (KWS, 2008)

- Traditionally, over 80% of wildlife leaves Amboseli National Park during the wet season to disperse into the group ranches after more pasture and water become available. Group ranch subdivision and land transformation from traditional communal ownership into smaller fragmented parcels for individual

ownership is widespread in most dispersal areas and corridors including Mbirikani, Kimana, and Kuku Group Ranches. This has seriously interrupted the traditional migratory route ways for wildlife into the Chyulu Hills, Tsavo and Mkomazi (Tanzania) as well as the Kitenden wildlife corridor which connects to the Longido area in Tanzania.

- The baseline ground inspection showed that increased human activities in the Mbirikani, Kuku corridor and Kimana Group Ranches have resulted in wildlife displacement and obstruction of the traditional wildlife dispersal between Amboseli National Park, the Chyulu Hills and Tsavo National Parks.
- The magnitude of HWCs within the dispersal areas and migratory corridors has increased especially with regard to the Elephants (*Loxodonta africana*), lions (*Panthera leo*), leopards (*Panthera pardus*), spotted hyenas (*Crocuta crocuta*), cape buffalos (*Syncerus caffer*), gazelles (*Gazella thomsonii*), and *Gazella granti*), zebras (*Equus burchelli*), and hippopotami (*Hippopotamus Amphibious*).
- Public opinion indicated that the local people are likely to demand compensation payments in order to continue allowing access and sharing of their land and associated resources with wildlife. The continuing demand by locals for compensation for economic losses emanating from wildlife (e.g. livestock depredation, crop raiding and destruction, human injury and death) cannot also be ignored. This situation seems to arise because the benefits to the local communities from wildlife tourism is insignificant and the general feeling is that the government and tourism investors were the sole beneficiaries.
- The local community attitude towards wildlife conservation including the on-going conservation initiatives in the ecosystem is mixed with some for the idea while others are for irrigation and the rest for singular pastoralism.

4.1.2.2: Management and protection of swamps and river systems in collaboration with stakeholders

- Agriculture has continued to spread steadily down the rainfall gradient from higher grounds around the foot hills of Mt. Kilimanjaro to lower altitudes in the group ranches. In the lowlands, where rainfall is too low to support farming, settlements and farms have continued to spread along the rivers and swamps to the east of the Amboseli National Park. The most affected river ways are Nolturesh, Ilkisonko, Isinet, Kimana and Rombo.
- Human and livestock population to the east of the Amboseli National Park has increased rapidly and is heavily concentrated around the wetlands such as those at Namelok, Isinet and Kimana. Traditionally, the pastoralist Maasai community used the wetlands in harmony with wildlife. However, in recent years, increased irrigated farming is taking place to grow tomatoes and other vegetables, maize, onions and other food crops mostly for external markets. This has become an alternative livelihood to supplement their pastoralist lifestyles. Unfortunately, agriculture has resulted in the complete exclusion of wildlife from most of the affected wetlands, and the situation has also heightened HWCs due to livestock depredation by large carnivores (mostly lion and spotted hyena) and crop damage especially by elephants among other large herbivorous species.
- Figure 4-3 shows the recent changes in wetland ecosystems in the Amboseli region based on satellite imagery analysis undertaken during the SEA process. The use by the local communities of wetlands on the periphery of the Amboseli National Park especially in the Kimana and Namelok area has increased over the years as a result of droughts and purported failure by KWS to provide boreholes for livestock watering outside the park boundary as initially planned. There have been little in-depth studies on the extent of loss of wildlife habitats, magnitude and hydrological impacts of water abstraction from key wetlands and river course ways for the tourism sector and irrigation. Prolonged

and high concentration of elephants inside the park may also have affected the wetlands through widespread loss of their vegetation cover. This is likely to continue putting considerable pressure on wetland vegetation within the as was observed in the Ol Tukai, Loginye and Engong Narok Swamps within Amboseli National Park.

- The water situation in the entire ecosystem is, on the overall, grim because the demand by various economic sectors such as agriculture, urban centres, livestock and wildlife is on the increase but the supply is dwindling due to the environmental threats facing the sources in form of rivers, springs and wetlands. Water resources are being lost because of irrigation and non-integration with Kenya law, which is putting the entire ecosystem at a tipping point. Climate change is likely to worsen the situation.

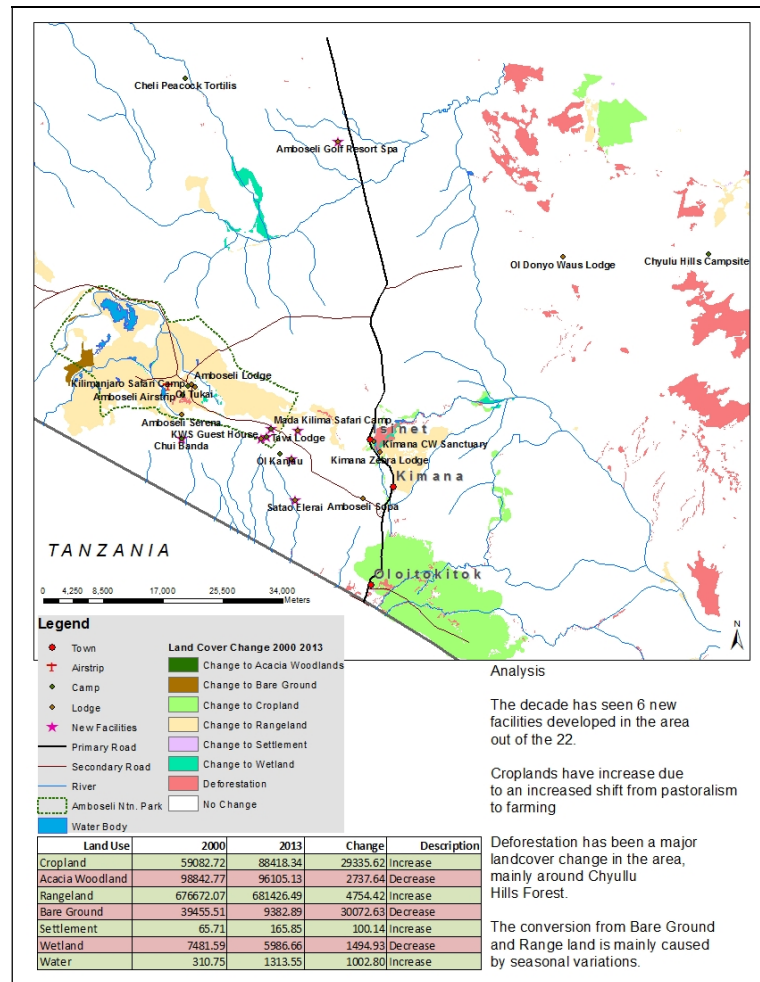


Figure 4- 3: Wetland cover change in the Amboseli ecosystem

- The inability to tackle the challenges associated with sustainable water management might make the future of the Amboseli ecosystem very uncertain. Without water, not only will agriculture income collapse but could also mean that the entire tourism sector will also collapse.
- The shrinking of wetlands is likely to escalate as climate change affect the natural replenishment of water through underground springs linked to Mt. Kilimanjaro whose glaciers have rapidly diminished (Figure 4-4).

a) 1976

b) 2005



Figure 4- 4: Recent variability in the size of the Kilimanjaro Glacier

- It is likely that climate variability in the ecosystem will disrupt the seasonal movement of large herbivores especially water dependent species like elephant, common zebra and wildebeest between the park and adjusting dispersal areas. If this happens, it will lead to further over-use and subsequent degradation of the swamps leading to major HWC crisis in the ecosystem.

4.1.2.3: Conservation of AE threatened large mammal species

- Increase in elephant numbers and their subsequent restriction within the park boundaries has been shown to have accelerated the destruction of *Acacia xanthophloea* woodlands and wetlands environment especially around the Ol Tukai, Loginye and Engong Narok swamps. This has resulted in a remarkable decline of pasture biomass largely due to reduction of tall sedges in the swamps. In the long term, it appears like the swamp's carrying capacity and ecological resilience might not cope with the demand for dry season wildlife food supply and livestock water supply (**Plate 8**).
- The restricted elephant range and emergence of agriculture have collectively heightened human-elephant conflicts in the region, thereby making elephants to be among the leading problem animals in terms of HWCs.
- The population of black rhinos (*Diceros bicornis* Gray) in the entire ecosystem has declined since the 1950's, and is now almost wiped out expect for a few animals (less than 10) in the Chyulu Hills National Park and its surroundings. However, the baseline validation inspection did not come across any rhino during the survey.
- The population of top carnivores in the area including lions are on a rapid decline and near elimination through targeted killing. On the other hand, the ecosystem has also experienced a decline in the spotted hyena which is one of the most feared and hated carnivore by the Maasai due to its ability to raid livestock. This trend is also fairly similar for the leopards and even cheetahs which are among the big carnivores that were historically prevalent in the ecosystem.



Plate 8: The state of the Amboseli Swamps during the baseline survey

4.1.2.4: Ecological monitoring and research information dissemination

KWS research capacity in the ecosystem is weak because although the Amboseli National Park has a resident scientist, there is no established research station to support adequate scientific monitoring in the valued ecosystem. Consequently, the ecosystem has to rely on other stakeholders for scientific information to support planning and management decisions. Due to weak collaborative mechanisms between research service providers and KWS scientific information flow can be affected.

4.1.3: Future ecosystem scenarios

4.1.3.1: Critical wildlife dispersal areas and corridors within the Amboseli Ecosystem

Scenario 1: As land within the group ranches which comprise critical wildlife habitats, wildlife dispersal areas and migratory corridors continue becoming more developed and settled, less area will be available for wildlife to disperse and migrate between Amboseli National Park and other strategic conservation areas. The breakdown of this critical environmental network will spell doom for the future of Amboseli National Park.

Scenario 2: The current prevalence of human–wildlife conflicts will continue and probably escalate unless the Maasai are encouraged to set aside open communal areas that are important for use by both livestock and wildlife. Areas for such multiple resource uses (i.e., wildlife conservation, dry season livestock grazing, critical water sources) are already being established through the private and community conservancy model which holds the future for wildlife conservation and sustainable resource utilization in the area. The conservancy model will only work well through sustainable partnerships with other stakeholders especially genuine tourism investors who can lease land (after subdivision) from local owners and ensure the sharing of tourism revenue to the grass root in order to compensate local people for opportunity losses incurred for wildlife conservation. However, if these conservancies don't provide enough benefits especially revenue

generation through wildlife based tourism, their future will certainly be uncertain. It's therefore critical that measures are put in place to ensure they function as envisaged, and they provide reliable and sustainable income for the land owners. Another major threat to the effectiveness of the conservancies is their insularization due to the tremendous land use and human population demographics taking place in their surroundings.

4.1.3.2: Management and protection of swamps and river systems in collaboration with stakeholders

Scenario 1: The prolonged and high concentration of wildlife in the swamps within Amboseli National Park is unsustainable and could lead to the collapse of these critical dry-season wildlife refugia thereby reducing the ecological resilience of the Amboseli Ecosystem. This will ultimately lead to possible collapse or reduction in wildlife based tourism and revenue generated from it.

Scenario 2: Irrigated agriculture in swamps and rivers within the group ranches has become an important complimentary source of livelihood to Maasai household incomes and the general local economy with market centres like Kimana, Isinet and Namelok supplying fresh vegetables to the large cities of Mombasa and Nairobi. However, the long term future of this sector and associated financial returns is uncertain because of the water scarcity scenario in the area which could eventually result in; b) reduction in socio-cohesion among different ethnic groups, b) frequent water related conflicts, c) reduction in households income coupled by prevalence in poverty levels, and collapse of the irrigated agriculture.

4.1.3.3: Conservation of AE threatened large mammal species

Scenario 1: The long term future of threatened species in the Amboseli Ecosystem especially the elephants, rhinos and top carnivores are extremely uncertain unless wildlife management is integrated with pastoralism in order to secure critical wildlife areas outside the national park through equitable sharing of tourism revenue.

4.1.3.4: Ecological monitoring and research information dissemination

Scenario 1: Continuous environmental monitoring is necessary in order to generate regular state of environment information to guide the long term management of the Amboseli Ecosystem. However, it is also important to ensure such information and decisions made thereof are acted on, otherwise it will simply remain as scientific information which is not helping salvage the ecosystem, its biodiversity, critical natural resources, and livelihoods.

4.2: TOURISM DEVELOPMENT AND MANAGEMENT PROGRAMME

4.2.1: State of environment

The Amboseli National Park is the second most visited park in Kenya after Lake Nakuru National Park generating a substantial income to the economy. Okello *et al.* (2001) indicated that it generates over Ksh 150 million (approximately US \$2 million) in income per year. The park is also listed as an UNESCO Man and Biosphere Reserve (MAB) due to its excellent ability to address the twin conservation-development goals. Tourism in the ecosystem is based on its rich natural and cultural attractions especially the spectacular view of Mount Kilimanjaro in Tanzania. The park is particularly popular as a wildlife-based tourism destination with big mammals such as the elephant. It is also known for being a pioneer in community-based tourism initiatives in the 1990s.

The Amboseli Ecosystem contains a wide range of tourism resources and products which include: a) diverse wildlife and birdlife: Over 80 different wildlife species are found in the area. The park alone has about 400 different species of birds and over 300 species of plants, b) spectacular natural environment which include Mount Kilimanjaro, woodlands and rangelands ecosystems, rivers, springs, and swamps, c) rich traditional culture including Masai religious sites, cultural festivals and events, arts and crafts,

traditional food, d) modern tourism facilities including four (4) lodges with large bed night capacity, one (1) campsite, one (1) Banda all inside the ANP and fourteen (14) environmental friendly small lodges which with low bed capacity located outside the ANP.

4.2.1.1: Sustainable tourism development and management

A number of observations were made from the baseline situation analysis as highlighted below.

Observation 1: There are particular areas within Amboseli Ecosystem where tourism development is causing serious environmental degradation. This is especially common around the water points near lodges particularly within the national park. Another hotspot is the dilapidated Kilimanjaro Lodge, which was previously flooded and has been neglected and run down.

Observation 2: Tourism is currently providing considerable economic benefits to the nation and those in the tourism industry. However, in the Amboseli Ecosystem, this revenue does not seem to be effectively trickling down to the household level in order to make a significant change in their livelihoods. This situation has accelerated the search for alternative income sources thereby creating the problem of mushrooming irrigation and charcoal burning within the ecosystem. Similarly, field enquiries revealed that commercial bush meat poaching is very common. This is threatening the survival of wildlife and crucial landscapes for tourism.

Observation 3: While most of the tourism investors and operators are following good environmental practices such as using local construction materials to in-blend with the local environment thereby minimizing visual impacts, the Amboseli Ecosystem lacks standard frameworks to ensure such practices are adopted across the industry.

Observation 4: There was clear evidence that in some areas, local communities with large chunks of land in the group ranches where land privatization is taking place are joining up to form communal wildlife conservancies in order to protect wildlife and attract investors to establish eco-lodges on their land which is a desirable long-term goal. Such conservational and business partnerships are good for sustainable tourism in the area. However, some partnerships in the area have failed in the past through mismanagement, notably in the Kimana Sanctuary which has led to destruction of property, loss of wildlife habitats through illegal livestock grazing by the locals and more recently bush meat activities.

Observation 5: Conservation fees are charged by various conservancies ranging from about US\$30-US\$80. This goes to the owners of group ranches depending on whether the conservancy is in a group ranch or is under the ownership of a few private land owners. It is not clear whether the distribution of the tourism revenue is equitable and acceptable at the grass-root level. However, it was clear from the baseline survey that most local people are not satisfied with the revenue sharing system and the amount they are getting from wildlife tourism related ventures. This is an issue that has to be addressed otherwise it will ruin the on-going wildlife conservation and tourism initiatives.

Observation 6: There was clear evidence of eco-labeling in some of the tourism facilities in line with standard best practices as in other parts of the world.

Observation 7: There was no evidence of any significant environmental education and direct wildlife conservation support initiatives in most of the tourism investments. However, some tourism investors are supporting wildlife conservation through the Amboseli-Tsavo Game Scout Initiative.

Observation 8: The high concentration of tourism facilities inside the park, to the south-east of the national park and also within the Kimana area has reached unsustainable level especially in terms of; a) resource consumption particularly water, b) visual disturbance, c) wildlife habitat disturbance including interruption of wildlife movements. Any further tourism development in these areas needs to be carefully regulated.

4.2.1.2: Local community support

Observation 1: Following subdivision of group ranches such as the former Kimana/Tikondo Group Ranch and those which existed along the slopes of Mt. Kilimanjaro there has been land use change from pastoralism to agriculture or mixed agro-pastoralism as well as an accelerated land sale. A lot of small scale horticulture activities are taking place around the swamps and river courses. Renting out farms to non-Maasai in the swamps is common as well as shared farming between the Maasai and other ethnic groups including people from Tanzania. Vegetation destruction and exploitation of the swamps is leading to water scarcity and deterioration of water quality. This was an indicator of the lack of value attachment towards tourism and wildlife conservation as a viable land use.

Observation 2: There was clear evidence of the employment of local people in the tour facilities within the ecosystem but mostly in the unskilled areas such as grounds-keeping, drivers, and field guides. However, the situation might change significantly in the future. For example, the Assistant Manager of AA Lodge is a young local Maasai from the region.

Observation 3: Community-based curio outlets are mainly restricted to the park entry points as well as outside Amboseli National Park (especially the numerous ones behind Serena lodge) but also inside tour lodges.

Observation 4: The cultural museum at Lemong'o in the former Kimana/Tikondo group ranch (outside the Amboseli National Park) is yet to be open for use.

4.2.1.3: Amboseli diversification and enhancement of visitor experience

Observation 1: Signage for visitors is only available within the national park but is not well arranged outside the park in order to support diversification of the tourism industry.

Observation 2: Tourism infrastructures especially transport by both road and air is available and well maintained within the park which makes it accessible easily.

Observation 3: The Rombo and Imbirikani Group Ranches are a low tourism use area, with low wildlife activity, and therefore appealing for nature trail development and exclusive camping.

Observation 4: Local construction materials such as rocks and dead wood among others have been used in the construction in some of the eco-lodges such as Tawi, AA Lodge and Satao-Elerai Lodge which enables them to blend nicely into the local environment (**Plate 9**).

Observation 5: There were no tourism information centers visible within the ecosystem. However, tour and lodge operators, as well as KWS usually take the initiative to inform visitors, either through their respective websites and using brochures.



Plate 9: Satai Elerai Camp

Observation 6: Some conservational NGOs such as AWF and IFAW are supporting the diversification of tourism in the Amboseli region through land lease programs especially within critical wildlife dispersal and migratory corridors where local communities are willing to establish community conservancies for tourism benefits.

4.2.1.4: Marketing and communication

Several observations were made concerning tourism marketing and communication of the Amboseli Ecosystem which is central in ensuring that more visitors want to visit and spend money in the area.

Observation 1: There are quite a number of prominent tour operators such as Magical Kenya, Real Africa Safaris, African Safaris, and Go-Africa which already offer tours to Amboseli National Park which was recently branded as a destination for viewing the most researched large families of Elephants and Mt. Kilimanjaro.

Observation 2: Active marketing within the market segment on nature-based tourism is done by KWS and the Kenya Tourism Board as well as the lodges to attract tourists to the Amboseli destination.

Observation 3: Special marketing campaigns through the proposed Amboseli Marathons have started taking off. In 2012, for example, there was a marathon in Kimana Sanctuary although a sustained follow up of this good idea is lacking.

Observation 4: Most tour organizations such as Magical Kenya, Real Africa Safaris, African Safaris, and Go-Africa which are present in the Amboseli ecosystem conduct individual tourism marketing with minimal joint research and marketing in the ecosystem.

4.2.2.3: Tourism diversification and enhancing visitor experience

Challenge 1: There is a high likelihood of congestion in the Amboseli National Park with increase in visitor numbers hence the need to distribute them in other parts of the ecosystem.

4.2.2.4: Domestic and international tourism marketing and promotion

Challenge 1: There is a likely increase in human population into the ecosystem with high tourist population in the area due to the mushrooming of tourism facilities. This could strain scarce and inadequate resources such as water.

4.2.3: Future ecosystem scenarios

4.2.3.1: Sustainable tourism development

Scenario 1: Sustainable tourism is the best option in order to avoid the long-term negative environmental impacts within the ecosystem. At the moment, uncontrolled construction of tourism facilities has escalated the pressure on the resources in the area including water resources and the scenic landscapes.

Scenario 2: Construction of tourist hotels, recreation and other facilities often leads to increased sewage pollution. Wastewater disposal in the ecosystem has polluted some water points within the ANP, thereby threatening the existing flora and fauna. This situation is likely to escalate unless proper environmental control measures are taken because the number of tourism facilities in the ecosystem has been rising over the years.

4.2.3.2: Tourism diversification and enhancing visitor experience

Scenario 1: There is a risk of over-abstraction of groundwater resources with uncontrolled mushrooming of tourism facilities in the ecosystem. The tourism industry is a heavy user of water resources for food preparation, washrooms and swimming pools within the hotels. One of the proposed tourism investments to the north of Amboseli National Park is a mega (300 bed) Golf Resort to the north of ANP which might eventually consume a lot of water.

Scenario 2: At the moment, all the lodges outside the park are dependent on the tourism products within the park thereby creating intense environmental pressure on the park environment. There is a serious need in the future to diversify the tourism product by opening community parks outside the national park where some of the visitors even for the lodges within the park can be directed to.

4.2.3.3: Enhancing tourism benefits for the local community

Scenario 1: Lack of effective mechanism for involving the community as a whole in tourism development and revenue generation could hamper the sector in the future. One of the cornerstones of sustainable tourism is the idea that the local communities should be actively involved in tourism planning and eventually control the local tourism industry and its activities.

4.2.3.4: Domestic and international tourism marketing and promotion

Scenario 1: Lack of cooperation between the tourism sector and other sectors such as wildlife, livestock and water sectors and lack of information about tourism activities and products might complicate the marketing and promotion of tourism development in the area.

Scenario 2: Lack of awareness and understanding of sustainable tourism by tour operators especially with regard to sustainable visitor management, eco-labeling, and resource conservation will need to improve in order to minimize environmental degradation and depletion of essential resources such as water in the Amboseli ecosystem.

4.3: COMMUNITY PARTNERSHIP AND EDUCATION PROGRAMME

4.3.1: State of environment

4.3.1.1 Wildlife dispersal areas around Amboseli NP and critical linkages to adjacent Tsavo and Kilimanjaro National Parks

The wildlife dispersal area around Amboseli National Park and critical linkages to Tsavo West and Kilimanjaro National Parks comprises of Olugulului, Kimana, Imbirikani, Kuku, Rombo, Serai, Eselengei ranches. These ranches are generally still open and, wildlife still disperses through them. The ranches though threatened by poor management, still serve as critical wildlife dispersal area for Amboseli National Park and, as corridors between the park and Tsavo West and Kilimanjaro National Parks.

4.3.1.2: Human-wildlife conflict in community areas

The Kimana wildlife fence constructed late in 1990s has collapsed while the Namelok fence constructed in early in 2000s has greatly deteriorated. This is because fence maintenance has been lacking or poor. The fence management committees that were set up after construction have since collapsed or are not functioning at all. As a result, the fences are no longer effective as wildlife barriers. On the other hand, wildlife fences appear to have encouraged the influx of farmers into the Kimana and Namelok areas. Since the fences were constructed, more and more land along the rivers and in swampy areas of Kimana and Namelok has been put under crop cultivation. This is because farmlands have been protected by the fences against wildlife crops raids.

There are about 300 trained game scouts who oversee wildlife security on private and community conservancies in the Amboseli Ecosystem. Because group ranches lack sufficient financial resources, most of game scout activities are supported by donors through Big Life Foundation which is coordinated by Richard Bonham. Resource conflict resolution committees exist at ranch and at ecosystem levels. The committees oversee the activities of game scouts and conflict consolation schemes resulting from predator attacks and killings of livestock.

There have been attempts by an NGO such as AWF and Born Free to construct predator proof bomas on experimental basis in the Kimana area and in Mbirikani group ranch close to the park. The success of the technology and adoption of it by the community is yet to be established. A recent study by SFS funded by the AWF established that the predator proof fences in such bomas to be very effective in mitigating human-predator conflicts.

4.3.1.3: Community benefits from natural resource use

The traditional community benefits from natural resource use are as follows: land supports pastoralism which is the main way of life for the Maasai people. Land supports pasture which is used by livestock; water is used by people for domestic purposes and livestock; trees are used for building peoples' dwellings, medicine and wood fuel. However, in the recent past, KWS, NGOs like AWF and IFAW and the private sector have been encouraging the community to diversify uses of wildlife resources by getting involved in eco-tourism. At the same time, the Ministry of Agriculture and the National Irrigation Board (NIB) have been encouraging the local community to engage in irrigated agriculture in the wetlands (along the rivers and in swamps) as an alternative land use in the rangelands and a strategy for attain food security in the Loitokitok sub-county which does not augur well with wildlife conservation.

Equity in benefit sharing from use of natural resources is a big challenge to all the group ranches. Inequitable sharing of benefits from natural resources use and poor management of the group ranches have resulted into subdivision or individualization of some land on Kimana, Olugulului, Imbirikani, and Kuku group ranches. Further land subdivision in the future is a major threat to the survival of wildlife, the tourism industry and local livelihoods in the ecosystem.

4.3.1.4: Livestock productivity

Pastoralists in the ecosystem generally keep indigenous livestock breeds which are small in size and take long to mature. Although there is still traditional seasonal grazing on the group ranches and in the ecosystem, this system is slowly collapsing (**Plate 10**). Group ranches are overstocked with livestock; some parts of the land are overgrazed and soil erosion is evident in some areas like along livestock tracks and manyattas; watering points are bare and the land around them is degraded; and there are livestock incursions into the Amboseli National Park. There has also been a notable loss of key grass species which has increasingly compromised availability of high quality grazing resources, and this is attributed to overstocking and climate variability.



Plate 10: Livestock grazing in the Amboseli Ecosystem

The Ministry in charge of livestock development does not appear to provide technical assistance to the pastoralists: the people are still relying on traditional livestock breeds; most cattle dips are not functioning; most livestock is not vaccinated; there are no disease free zones; and the pastoralists themselves (without technical expertise) treat sick animals and take care of animal diseases. The Maasai are not even educated on the range condition changes that have occurred and how this can be mitigated in order to sustain pastoralism which is critical in sustaining their livelihoods.

4.3.1.5: Livestock production and marketing

The livestock holding grounds that were established in the area during the colonial days are no more. Marketing of livestock is controlled by big business people who buy livestock from the pastoralists from the local markets like Kimana, Rombo and Mbirikani and then sell them to other business people or slaughter houses or butcheries in Nairobi, Athi River, Loitokitok, Machakos and Kajiado. The prices of livestock are normally low when schools are about to re-open and high when schools are in session. The Kenya Meat Commission which is supposed to buy livestock from pastoralists and market livestock products nationally and internationally is completely unable to do so. It was noted that the proposal to develop a slaughter house on Imbirikani Group ranch, is gaining ground.

4.3.1.6: Awareness about Amboseli National Park and the ecosystem at the local and national level

KWS has a department of conservation education. It has limited capacity to develop conservation education focusing on Amboseli Ecosystem through a vigorous education outreach programme based on the local community's social stratification. Conservation education by KWS is limited to occasional offering of free visitation to the national park to a few primary schools and also by allowing students to undertake projects adjacent to the national park. NGOs such as the ACC, AWF and IFAW have not dedicated sufficient resources to conservation education in the ecosystem. As a result, the local community is unaware and inadequately educated on the conservation imperatives in the Amboseli Ecosystem.

4.3.2: Key environmental challenges

Key environmental challenges for the community partnership and education programme are highlighted below.

4.3.2.1: Keeping open and maintaining wildlife dispersal areas around Amboseli NP and critical linkages to adjacent Tsavo and Kilimanjaro National Parks

- Land subdivision/individualization of group ranches;
- Changing land use from conservation and livestock use to crop agriculture;
- Increasing human population and associated cluster zones in the ecosystem;
- Sedentarization of pastoralists;
- Overgrazing and soil erosion which is degrading the land thus rendering it unusable by livestock and wildlife (**Plate 11**);
- Increasing livestock population;
- Large scale fencing of wetlands for crop production; and
- Climate change and general climate variability.



Plate 11: Soil degradation in the Isinet area

4.3.2.2: Reducing human-wildlife conflict in community areas to minimum levels

- Increasing human-wildlife conflict (crop damage, livestock predation and injuries and death to humans);
- Increasing land is being put under crop agriculture which is not compatible with wildlife

- conservation;
- Increase in livestock and human population thereby displacing wildlife;
- Increasing cases of livestock incursions into Amboseli National Park;
- Lack of maintenance of wildlife fences; and
- Poaching for both trophies and bush meat.

4.3.2.3: Diversifying and ensuring equity in community benefits sharing from natural resource use.

- Lack of know-how to engage in other economic activities like eco-tourism and businesses;
- Land subdivision/individualization;
- Low individual benefits from the group ranches;
- Higher benefits from property owned by individuals than from the group ranch;
- The negative environmental impacts of the 'tragedy of the commons' phenomenon;
- Poor leadership of the group ranches; and
- Retrogressive local politics and cultural practices.

4.3.2.4: Improving livestock productivity to enhance community livelihoods

- Climate change and variability impacts, especially prevalence of drought;
- Lack of water for livestock especially in most parts of the ecosystem;
- The culture of keeping large herds of livestock to signify wealth which results into overstocking;
- Diminishing pasture due to overgrazing;
- Degraded land due to soil erosion resulting from overgrazing;
- Pastoralist dependency on indigenous livestock;
- Livestock diseases; and
- Lack of livestock extension services from the Government.

4.3.2.5: Focusing livestock production and marketing on specific local and international markets

- Exploitation of pastoralists by livestock buyers at the local markets;
- Absence of livestock holding grounds;
- Poor livestock market facilities;
- Lack of infrastructure to market pastoralist livestock at national and international levels;
- Lack of capacity by Kenya Meat Commission to buy livestock from the pastoralists; and
- Lack of slaughter houses.

4.3.2.6: Awareness about Amboseli National Park and the ecosystem at the local and national level enhanced.

- Funding the programme in order to reach out as many people in the ecosystem as possible;
- Sustaining awareness conservation education momentum;
- Incorporating indigenous conservation knowledge in conservation education; and
- Declining wildlife animal numbers despite the awareness creation and conservation education.

4.3.3: Future ecosystem scenarios

4.3.3.1: Keeping open and maintaining wildlife dispersal areas around Amboseli NP and critical linkages to adjacent Tsavo and Kilimanjaro national parks.

Scenario 1: If effective measures are taken to keep the present wildlife dispersal areas open then wildlife will continue to disperse between Amboseli National Park and Tsavo and Kilimanjaro parks. This can only happen if most people, especially the landowners in the ecosystem, benefit from wildlife conservation more than from other land uses.

Scenario 2: Unless effective interventions are made, the present wildlife dispersal areas will be fragmented or closed up by pockets of ever-growing human settlements, crop agriculture and unplanned urban centres in the Amboseli Ecosystem such as Isinet, Namelok and others which are emerging as a result of wetland agriculture (**Plate 12**). Consequently, the areas will cease to be a continuous links of Amboseli National Park to Tsavo and Kilimanjaro parks. As a result, wildlife will eventually be confined to the protected areas only.

Scenario 3: Most of the dispersal areas will be subdivided and the new land owners may opt to use their land in a manner that is not compatible with wildlife conservation. If that happens, the results will be like in scenario "2" above.



Plate 12: Unplanned urban centres

4.3.3.2: Reducing human-wildlife conflict in community areas to minimum levels

Scenario 1: Human wildlife conflict will decrease as a result of taking effective measures that will reduce it. Consequently, the people will tolerate wildlife and co-exist with it. This is the desirable scenario which should be promoted.

Scenario 2: Human wildlife conflict will increase as a result of taking effective conservation measures. It will also increase as a result of increase in human and livestock populations in the ecosystem and when more wetlands are turned into crop agriculture. This is the undesirable scenario that should be avoided.

Scenario 3: Competing land uses, especially for food, and settlements will displace wildlife. Wildlife habitats will be either turned into settlements, intensive grazing areas or crop agriculture which might not be sustainable on the long run.

4.3.3.3: Diversifying and ensuring equity in community benefits sharing from natural resource use.

Scenario 1: If community benefits are diversified and shared equitably, the people will gain by getting

more than is the case presently. They local people will always support activities that will enable them to get more benefits. If such benefits are derived from conservation of natural resources then the people will support them.

Scenario 2: If community benefits are not diversified and the sharing of community benefits is not equitable, the pastoralists will continue with their traditional pastoralism and not realize the benefits of conserving natural resources for a common good in the ecosystem. The pastoralists will compete to use the natural resources that benefit them individually rather than collectively resulting into the 'tragedy of the commons'.

4.3.3.4: Improving livestock productivity to enhance community livelihoods

Scenario 1: Traditional pastoralism might not survive on the long term due to a number of sustainability challenges including: - a) increasing land scarcity and corresponding decline in water availability, b) relatively local high costs of raising livestock, c) the lack of reliable beef markets, and d) rangeland degradation which will limit its livestock carrying capacity and thus sustenance of pastoralism.

Scenario 2: If livestock productivity is improved, the pastoralist's livelihoods will be enhanced. Being pastoralists, the Maasai people will support this endeavour.

Scenario 3: If livestock productivity is not improved, the pastoralists will continue to rely on their indigenous livestock that does not improve their livelihoods except when they increase the stocking rates. Increase in the stocking rates will result in overgrazing and degradation of the land.

4.3.3.5: Focusing livestock production and marketing on specific local and international markets

Scenario 1: If livestock production and marketing focuses on local and international markets, the pastoralists will earn more money than is the case presently. As a result, their standard of living will improve. They will also be able to practice modern livestock husbandry by managing natural resources like land and water better than they are doing presently.

Scenario 2: As a result of earning more from livestock, the pastoralists by culture will intensify livestock production on the rangeland which will be detrimental to conservation and management of natural resources.

Scenario 3: Earning more from livestock would mean change from nomadic to sedenterization lifestyles. This would mean fragmentation of wildlife habitats and intensive use of natural resources in the ecosystem.

4.3.3.6: Enhancing awareness about the park and ecosystem at the local and national level

Scenario 1: The people will be conscious of the conservation issues in Amboseli Ecosystem and will change their behaviour towards conservation and good management. They will also use the natural resources wisely.

Scenario 2: More education on the consequences of the 'tragedy of the commons' and the fragility of the rangelands will enhance management of rangeland resources for the common good rather than individual benefit. If this happens, management, land, wildlife, water resources and livestock on the rangeland will be enhanced.

Scenario 3: The people will be educated about conservation of natural resources and the attendant benefits there from. They will be able to compare and make decisions on how best to use the natural resources found in the ecosystem. The best land use will be that which brings to them the highest returns/benefits, which may not necessarily be wildlife conservation. In which case, they will trade-off wildlife

conservation and management with other land uses like crop agriculture and intensive livestock production.

4.4: SECURITY PROGRAMME

4.4.1: State of environment

4.4.1.1: Security operations for the protection of AE's wildlife resources

There are 8 KWS outposts in the greater Amboseli Ecosystem, namely Nguruman outpost, Loitokitok Station, Loitokitok Warden's Office, Rombo outpost, Namanga outpost, Emali outpost, Selengei outpost and Konza outpost. Despite this, bush meat and commercial poaching has increased in the Amboseli region in recent years. The main centres of poaching have spread across the Chyulu Hills from the east and the settlement areas in eastern Kaputei. There are also bush meat poaching hot spots within the group ranches including those along the Kenya –Tanzania border. A number of species are threatened by both habitat loss, range loss and poaching. These include kongoni, impala, giraffe, reedbuck and bushbuck. Human-wildlife conflict has increased sharply especially between wildlife human settlements and settlement and farming. The greatest centres of conflict are located in the swamps and rivers lying between Amboseli and Tsavo which is part of the traditional drought refuges for wildlife and pastoral livestock.

4.4.1.2: Effectiveness of natural resource protection

The AE faces several major security challenges that threaten the integrity and continued preservation of its exceptional resource values. The challenges include wildlife poaching for bush meat and trophies, charcoal burning, sandal wood poaching and theft of KWS assets. In recent years a sharp rise in poaching and deepening conflict with people has slowed elephant recovery and blocked range expansion. Most of the poaching and all of the conflict takes place when elephants spread onto community lands around parks. In addition, much of the bush meat poaching takes place along the Kenya-Tanzania border and is perpetrated by locals from both sides of the border.

In recent years, natural resource protection has greatly been supported through the establishment of the Big Life Foundation which supports the Amboseli-Tsavo Game Scouts Association (BLF). The BLF through the help of partners has successfully recruited scouts from every group ranch in the Amboseli ecosystem. Based on verifiable indicators, the scouts have done an outstanding job curtailing poaching of wildlife and general degradation of the environment through inappropriate activities like tree cutting, charcoal burning, and water use monitoring through a Water Scout initiative. The programme currently employs over 300 scouts distributed in over 21 scout outposts across Kenya and Tanzania with coordination by KWS. The programme is stocked with 14 anti-poaching vehicles (Land Cruisers, Land Rovers), aerial support (using a Cessna 206 and Super Cub in Kenya, and in the process of purchasing a Microlight in Tanzania), 4 tracker dogs, latest technology night-vision equipment, GPSs and other necessary patrol equipment and a large network of informers. The game scouts have so far helped to secure the arrest of 627 poachers and confiscated 1,630 weapons. The initiative has greatly supported efforts by KWS in the area.

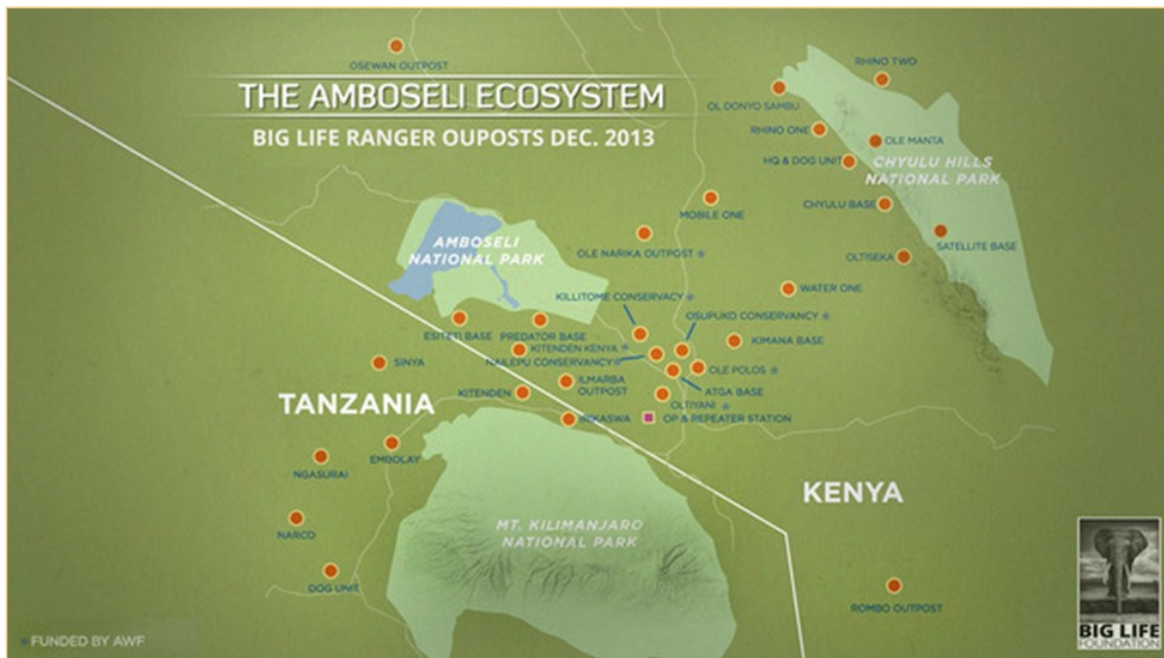


Figure 4- 6: Location of BLF-ATGCA scout outposts

4.4.2: Key environmental challenges

4.4.2.1: Security operations for the protection of AE's wildlife resources

- The immediate threats stem from the expansion of the Nairobi Metropolitan Region (NMR) with plans to construct a highway from Namanga to Loitokitok cutting through the migratory routes to the north of Amboseli National Park. At the same time, the Nairobi Metropolitan Region through the Nairobi Metro Strategy 2030 is planning to establish a new urban area known as Amboseli City to the north of Amboseli National Park. All these landuse activities coupled by the rush for land subdivisions and tourism development on the eastern border of the national park is going to create major environmental challenges in the ecosystem including creating a major interruption of wildlife movements to the northern and eastern zones of Amboseli National Park as well as intensifying the water problem in the ecosystem.

4.4.3: Future ecosystem scenarios

4.4.3.1: Security operations for the protection of AE's wildlife resources

The long term security of wildlife in the Amboseli Ecosystem lies in empowering the local communities to become the ultimate custodians of wildlife areas for which they must reap economic benefits from their tolerance of these animals that offset the economic losses otherwise suffered from human-wildlife conflict and the sharing of finite natural resources.

4.5: ECOSYSTEM MANAGEMENT PROGRAMME

4.5.1 State of environment

The current situation is highlighted below on the basis of different issues which are closely related to KWS operations in the ecosystem.

4.5.1.1: Institutional collaboration

The Amboseli ecosystem is characterized by various types of institutional collaborations as highlighted below.

a) KWS and researchers

This collaboration has been going on for many years and the park management is always kept abreast on the environmental trends by the various research organizations working in the area notably ACC, ATE, AWF, SFS and IFAW. However, there is no central research or resource centre for all the scientific information generated.

b) KWS and tour operators

The main collaboration is on tourism management and use of park facilities such as roads, airstrips, route signage and park security which enhance the tourism product.

c) KWS and lodge operators

The main collaboration is on visitor security and feedback on their findings in the park. The collaboration is mainly centred on how to improve visitor satisfaction and increase the number of days stayed in the park.

d) KWS and pastoralists

The main collaboration is on the provision and access to watering points inside the national park. In the past. It was realized that the presence of livestock inside the park lowers the tourism product. **(Plate 13)** Consequently, a water pipeline for distributing water to livestock outside the park was constructed. However, there have been challenges in maintaining the supply line as the pipes have grown old not to mention the frequent destruction by elephants. This scenario is likely to become more critical as most of the watering points and dry season grazing wetlands are taken over by irrigated agriculture. The natural arrangement is such that the wildlife disperses to pastoral lands during the wet seasons and the livestock accesses water in the park wetlands during the dry season. When the livestock are denied access to the park for water, the pastoralist spears the animals when they come out into the dispersal areas during the wet season. The compound effect of this and the agriculture encroachment of the wetlands is that most of the wildlife concentrate inside the parks for longer periods and in so doing have destroyed most of the tree cover and degraded the park vegetation cover.

e) KWS and TANAPA

The two institutions collaborate on joint cross-border security operations and intelligence gathering.

f) KWS and land owners

The collaboration is mainly through collaborative efforts to keep the rangelands open even after land subdivision through the establishment of community conservancies through which the land owners are expected to enjoy the fruits of tourism.

g) KWS, Big Life Foundation and Game Scouts

The collaboration is in the support of the Amboseli Tsavo Game Scout Association to enhance wildlife and visitor security both in the group ranches and especially in the conservancies. Currently, Big Life Foundation is supporting the game scouts but there is need to think on the sustainability of the current arrangements.

h) Conservancies and lodge operators

Currently the collaboration is such that the conservancies provide the tourism attractions while the lodge operators on the other hand provide investment capital for setting up the necessary accommodation and other hospitality services and also market the conservancies as tourism destinations. The conservancy land owners are then paid rent and conservation fees by the lodges depending on existing agreements.



Plate 13: Livestock grazing with livestock in Amboseli National Park

i) Land owners and irrigation farmers

The arrangement is payment of rent or lease per area necessary for irrigation purposes and the land owner is paid the rent money while the lessee benefits from the produce. This arrangement has turned out to be a win-win situation for the land owners and the lessee but a lose-lose situation for the wildlife, tourism, pastoralism as well as the AE functionality and operations. For this scenario to change, tourism and conservation must prove that they can pay more per ha to land owners than horticulture is currently paying.

j) Landowners and Tana-Athi Water Services Board

There was no evidence of an official collaboration as the Board endeavors to supply most of the water from Nolturesh springs to users and customers outside the AE. This might soon lead to a major between Amboseli Ecosystem water users and water users outside the ecosystem.

k) Amboseli Ecosystem Trust (AET) and ATGRA

The two have complementary and conflicting mandated of managing resources and relationships in the Amboseli Ecosystem. ATGRA has the mandate of coordinating conservation, tourism and conservation activities in the Amboseli group ranches while AET has the same mandate but for the entire ecosystem including trans-boundary collaboration.

4.5.1.2: Staff welfare and performance

The park staff live within the park and are therefore in isolation from the mainstream community in the AE and have inadequate access to health care, schools and other social services including recreation and entertainment.

4.5.1.3: AE management infrastructure

The park management has embarked on the improvement of the tourism infrastructure outside the park so as to divert more tourists to the conservancies around the park in order to ease the pressure being

experienced inside the park. Work has already started on roads improvement in the Kitenden corridor. Other plans construction of an airstrip in Rombo near the game scouts camp, provision of water in the Namelok area and reassessment and rethinking of fencing as a means of resolving human wildlife conflicts. Most fences encourage agriculture inside the fence due to the inaccessibility by wildlife created by the fence line.

4.3.2: Key environmental challenges

4.3.2.1: Institutional collaboration

Some of the challenges are highlighted below.

a) Amboseli Ecosystem Trust (AET)

AET has not been able to adequately stamp its presence and authority in the AE and enlist support of all the stakeholders for it to effectively coordinate land use, resource utilization benefits and information exchange for best practices.

b) Enhancing the functions of park management committee

The developments inside the park are mainly guided by KWS wardens and institutional plans that lack inputs from stakeholders and other government departments resulting to conflicts, operational inefficiencies and poor information exchange.

f) Liaising with honorary wardens to enhance wildlife conservation and management in the AE

The senior warden and his counterparts in the outstations do not have the capacity and the convenience for wildlife and tourism management out in the conservancies and GRs and honorary wardens are not currently identified and utilized to fill the void.

5.3.2.2: Staff welfare and performance

As the management challenges increase, there will be need for additional staff which will require additional staff facilities

5.3.2.3: AE management infrastructure

a) Road network

Opening of new roads in the group ranches is likely to increase incidences of poaching, charcoal burning and opening more land to irrigated agriculture. Fencing has also promoted agriculture in Namelok swamp thereby completely destroying the range diversity and enhancing the introduction of incompatible land use to conservation.

b) Water supply

The main challenge is increasing demand for water against the likely decrease in supply due to climate change. Although new developments especially in Kimana group ranches are sinking their own boreholes, this is still tapping on the water that feeds the wetlands both inside and outside the park.

4.3.3: Future ecosystem scenarios

4.3.3.1: Institutional collaboration

Scenario 1: if there is no effective institutional collaboration there will be no integration of sectors that depend on each other for sustainable conservation and development such as water sector, agriculture sector, livestock sector and tourism sector.

Scenario 2: Poor institutional collaboration will increase the incidences and frontiers of human wildlife conflicts as different organizations and sectors promote conflicting land uses with little synergy and complementarities.

Scenario 3: A weak plan implementation framework through the AET will affect the implementation of the AEMP as there is need for strong and all-inclusive leadership to mobilize the stakeholders for the implementation of the plan. AET is currently the only institution that can harmonize the interests of the different institutions and its continued weakness will result to further degradation and fragmentation of the AE especially through land subdivision and encroachment of wetlands for horticulture.

Scenario 4: There are far too many issues taking place outside the park but directly or indirectly affecting the park, These requires the functional park management committee to support the warden to handle especially those issues that involve other stakeholders such as land subdivision and cultivation of wildlife dispersal areas. The absence of a functional park management committee will create a disconnect between conservation and development issues.

Scenario 5: As more and more water in the open rangelands is taken over by agricultural land use the influx of livestock into the park will grow exponentially.

Scenario 6: Agreements for provision of water outside the park will likely attract wildlife outside the park during the dry season and hence ease the pressure that the park is currently experiencing.

4.3.3.2: AE Staff welfare and performance

Scenario 1: In future park residential houses could be constructed outside the park in a location that has more community interactions and other social infrastructure like Kimana.

4.3.3.3: AE Management infrastructure

Scenario 1: The new roads in the GRs will increase tourism activities in the conservancies and group ranches if security is also enhanced. The presence of game scouts outside the park makes this proposition and development viable.

5. PPP ANALYSIS

5.1: PPP OBLIGATIONS AND INTEGRATION STATUS

The proposed activities in the Amboseli Management Plan (2008-2018) for the First 3-year activity plan were subjected to a comprehensive PPP analysis based on the environmental obligations in the PPP framework as highlighted in Table 3-1. This was done according to the method explained in Section 3.5. The full results of the comprehensive PPP analysis are shown in Appendix 1. The findings showed that the Amboseli Management Plan (2008-2018) had an overall integration level of 50.3%. This is a satisfactory level of integration given that most of the environmental obligations in question are associated with PPPs which were introduced in the country when the AEMP was already in place.

5.2: PLAN NON-INTEGRATION TO PPP ENVIRONMENTAL OBLIGATIONS

The AEMP had an overall non-integration level of 49.7% which was approximately 50% thereby reflecting a 50-50 situation on the overall. Out of 53 PPPs with 356 obligations, 135 non-integrations were identified. The overall status of the AEMP in terms of non-integration to the existing environmental PPP obligations showed that the highest non-integration was in the Ecological Management Programme at 31.6%, followed by the Ecosystem Operations Programme at 30.4% and Community Partnership and Education Programme at 22.4%. The best integrated were the Security Programme with 3.4% non-integrated obligations followed closely by the Tourism Development and Management Programme with 12% (Figure 5-1).

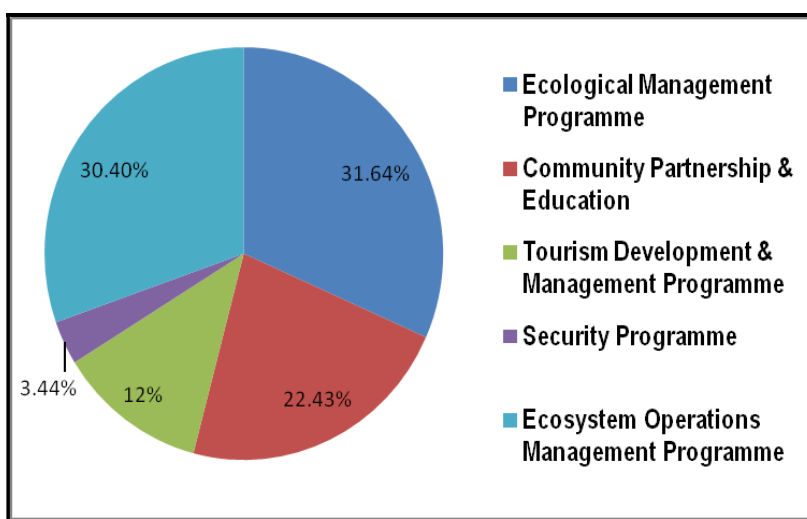


Figure 5- 1: Overall PPP non-integration by programme

5.2.1: Ecological management

A total of 46 PPP integration gaps were identified in this programme which were mainly concentrated on trans-boundary environmental obligations whose non-integration level was 30% followed by international frameworks (MEAs) with a non-integration level of 23.3% and then the national environmental legal frameworks with 22% as shown in Figure 5-2. The programme was less non-compliant with regard to National Strategic Plans (12%) and Environmental Policies (15.2%). Some of the trans-boundary and MEAs which were not integrated sufficiently in the first 3-yr activity plan included the EAC Climate Change Policy (EACCCP, 2011), Madrid Action Plan (2008-2013), and the United Nations Framework on Combating Climate Change. Although EMCA (1999) had a non-integration level of 27%, others like the Water Act, Cap 372 (2002) had almost a 100% non-integration status while the Forest Act (2005) had 66.7%. The inability by the AEMP to integrate the Water Act (2002) is unfortunate because water issues are a key challenge in the ecosystem Table 5-1 provides the full details on the programme PPP gap analysis.

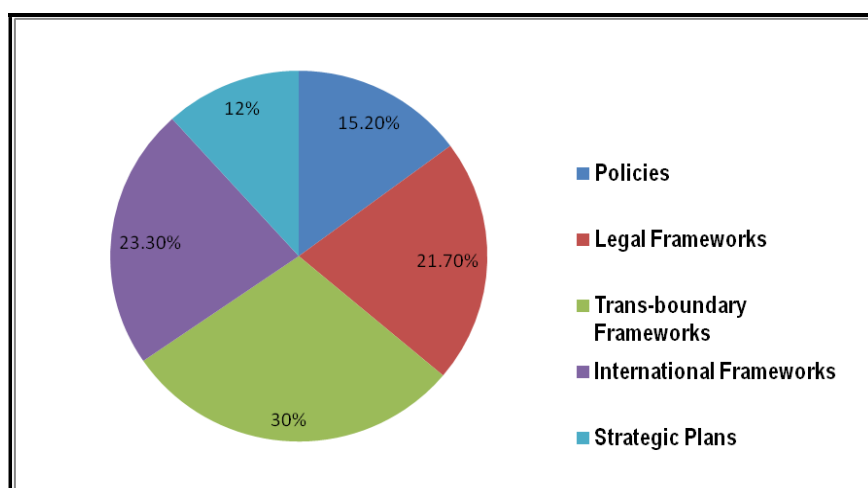


Figure 5- 2: Overall PPP integration gaps for the Ecological Management Programme

Table 5- 1: Summary of PPP gap analysis for the Ecological Management Programme

a) Trans-boundary frameworks

Name of framework	PPP environmental obligation gaps	Gap percentage
1. EAC Protocol on Environment and Natural Resources	Article 9 - Management of trans boundary resources 7. Cooperating in promoting economic and social incentives in the conservation and sustainable use of wildlife resources	21.4%
	Article 26 - Tourism development (g) Supporting the development of common and coordinated marketing and promotion strategies, action plans, and implementation programmes for promoting both intra-regional tourism	
	Article 31 - Environmental impact assessment and audits 2. Supporting trans boundary EIAs for trans-boundary activities and projects that may have significant adverse environmental impacts.	
2. EAC Climate Change Policy (EACCCP) – 2011	Section 3.1.3 Adaptation policy statements and priority actions 3.1.3.1 Vulnerability reduction and building economic and social resilience (v) Promoting social protection as a tool for disaster risk reduction and climate change adaptation β α	41.1%
	Infrastructure (i) Promoting climate change integration in all planning and design of infrastructure	
	(ii) Promoting community based approach to disaster risk reduction and community based adaptation	
	v) Promoting management of cross-border natural resource based conflict as result of stress on water and pasture for pastoral communities	
	(vi) Promoting the Disaster Risk Reduction (DRR) concept through the five priorities areas of the Hyogo Framework for Action (HFA)	
	Energy (ii) Promoting of renewable energy technologies (solar power, wind energy)	
	vi) Enhancing energy efficiency and saving	

b) International frameworks

Name of framework	PPP environmental obligation gaps	Gap percentage
1. Seville Strategy for the management of Biosphere Reserves	Objective III(4): Staff training 1. Using WNBR to support local training	33.3%
	2. Identifying representative BRs to serve as regional training centres	
2. Madrid Action Plan (2008-2013) – 60 actions and 34 targets	Target 23 - Launching specific UN-DESD programs in BRs with a number of associated schools	50%

3. Convention on Biological Diversity (CBD)	Article 13 - Public education and awareness (b) Cooperating, as appropriate, with other States and international organizations in developing educational and public awareness programmes, with respect to conservation and sustainable use of biological diversity	25%
4. United Nations Framework on Combating Climate Change	Article 6: Education, training and public awareness A(i) The development and implementation of educational and public awareness programmes on climate change and its effects	100%
5. United Nations Convention to Combat Desertification	Article 4: General obligations (b) Strengthening of drought preparedness and management, including drought contingency plans at the local, national, sub regional and regional levels, which take into consideration seasonal to inter-annual climate prediction (e) Development of sustainable irrigation programmes for both crops and livestock.	22.2%

c) National policies

Name of policy	PPP environmental obligation gaps	Gap percentage
1. The Constitution of Kenya	Article 66 – Regulating use of any land ,or any interest or right over any land, in the interest of public health or public planning Article 69 - Environment and natural resources (b) Working towards the achievement and maintaining a tree cover of at least 10% of the land area of Kenya by the year 2030 (g) Eliminating processes and activities that are likely to endanger the environment; and Article 185: 22 - Protection of the environment and natural resources with a view to establishing a durable and sustainable system of development	7.5%
2. Sessional Paper No. 6 of 1999 on Environment and Development	Land Degradation, Drought and Desertification <ul style="list-style-type: none"> Developing drought and desertification monitoring and early warning systems Water resources <ul style="list-style-type: none"> Providing incentives for rain water harvesting Human settlements <ul style="list-style-type: none"> Encouraging Kenyans to have family sizes which are sustainable Regulating urban development to only those areas which are suitable, avoiding ecologically fragile areas 	23.5%
3. Draft Environment Policy (2012)	<ul style="list-style-type: none"> Developing and implementing Drought and Desertification Monitoring and Early Warning Systems Encouraging CDM investments for climate change mitigation Promoting and institutionalizing payment for environmental services schemes to support watershed protection initiatives 	20%
4. National Water Policy (2012 Draft)	a) Ensuring increased per capita water availability above the international benchmark of 1000 m ³ by 2030 d) Enhancing storm water management and rainwater harvesting	16.6%
5. National Policy for the Sustainable Development of Arid and Semi-Arid Lands of Kenya (2012)	5.2.3.3 Security and the rule of law <ul style="list-style-type: none"> Strengthening traditional systems of governance and alternative dispute resolution mechanisms Other policy obligations <ul style="list-style-type: none"> Halve by 2015, the proportion of people without sustainable access to safe drinking water. 	25%
6. Draft National Policy on Wetlands Conservation and Management (2013)	11.3.2(3): Providing incentives to provide the under-represented gender into wildlife conservation careers and occupations 11.6(2): Ensuring that workplace initiatives are adapted for people with HIV/AIDS	18.1%
7. Draft Wildlife Policy (2011)	<ul style="list-style-type: none"> Developing an effective mechanism for sharing benefits from wildlife including revenue with communities living adjacent to Pas Developing and implement wildlife disaster preparedness, response and rescue strategy Developing recovery plans for the conservation and survival of endangered and threatened species Rehabilitation of forests 	13.3%

d) **National legal frameworks**

Name of legal framework	PPP environmental obligation gaps	Gap percentage
1. Environmental Management and Coordination Act (EMCA) No. 8 of 1999	Specific integration obligations <ul style="list-style-type: none"> Prohibiting and controlling the introduction of alien species into natural habitats Ensuring that no person shall carry out any of the activities stipulated in Section 42 of the Act without a Wetland Resource Use Permit by the relevant lead agency and an Environmental Impact Assessment License issued by the Authority where applicable Ensuring that every owner, occupier or user of land which is adjacent or contiguous to a wetland shall, with advice from the Authority, have a duty to prevent the degradation or destruction of the wetland, and shall maintain the ecological and other functions of the wetland 	27.2%
2. Water Act, Cap 372 of 2002	Article 45 (2) (2): Supporting community participation in forest management and conservation through CFAs Other legal obligations <ul style="list-style-type: none"> Ensuring appropriate precautions to prevent forest fires Supporting PES initiatives for carbon sequestration and other environmental services 	100%
3. Forest Act No. 7, of 2005	Part II Section 5 (i): Supporting the enforcement of the conditions and regulations pertaining to charcoal making and other forest utilization activities 37 (1): Enforcing legal obligation on the protection and management of all forests and woodlands Part IV: Community participation in forest management and conservation in Kenya Article 45 (2) (2): Supporting community participation in forest management and conservation through CFAs Other legal obligations <ul style="list-style-type: none"> Ensuring appropriate precautions to prevent forest fires Supporting PES initiatives for carbon sequestration and other environmental services 	83.3%

e) **National strategic plans**

Name of legal framework	PPP environmental obligation gaps	Gap percentage
1. Vision 2030	The management plan is expected to support the following environmental flagship activities <ul style="list-style-type: none"> k) Supporting carbon offset schemes l) Supporting schemes on compensation for environmental services m) Supporting the control of the spread of invasive species n) Supporting drought disaster preparedness and early warning o) Supporting the rehabilitation, regeneration and restoration of degraded rivers 	50%
2. National Environment Action Plan (2009-2013)	The management plan is expected to support the following environmental activities <ul style="list-style-type: none"> n) Enhancing the protection of wildlife resources o) Controlling of fire outbreaks 	15.3%
3. National Conservation and Management Strategy for Elephants in Kenya (2012-2021)	5.3 Ensuring more sustainable compensation, consolation and insurance mechanisms against losses from elephant damage are successfully implemented	9%
4. National Conservation and Management Strategy for Lions and Spotted Hyenas	Target 4.1. Reviewing school outreach programs to incorporate lion and hyena conservation issues 3.3.6 Ecological and conservation areas <ul style="list-style-type: none"> Supporting gazettement and protection by County Government of ecologically fragile and conservation areas in the NMR as part of the effort aimed at reducing the region's ecological footprint 	28.5%
5. Agricultural sector Development Strategy 2010-2020	<ul style="list-style-type: none"> Implementing the national climate change response strategy 	7.1%

5.2.2: Tourism development and management

This programme had a total of 13 PPP integration gaps with the gaps mainly concentrated on transboundary environmental obligations (28%) followed by international MEAs (23.3%), and legal frameworks (21.7%). A lower level of non-integration was associated with national strategic plans (12%)

and national environmental policies (15.2%) as shown in Figure 5-3. Some of the transboundary frameworks, national environmental policies and national strategic plans which are not featuring well in the first 3-yr activity plan were EAC Protocol on Environment and Natural Resources, Draft national Environment Policy (2012), Draft National Wildlife Policy (2011), National Tourism Policy (2007), National Climate Change Response Strategy (2009), National Environment Action Plan (2009-2013), and the National Biodiversity Strategy and Action Plan (2000). The inability by the AEMP to domesticate the Draft National Tourism Policy (2007) is unfortunate because sustainable management of the tourism sector is a key challenge in the ecosystem yet it's also generates a lot of revenue. The 2013 moratorium was triggered by the environmental problems associated with the sector. Table 5-2 provides the full on the programme PPP gap analysis.

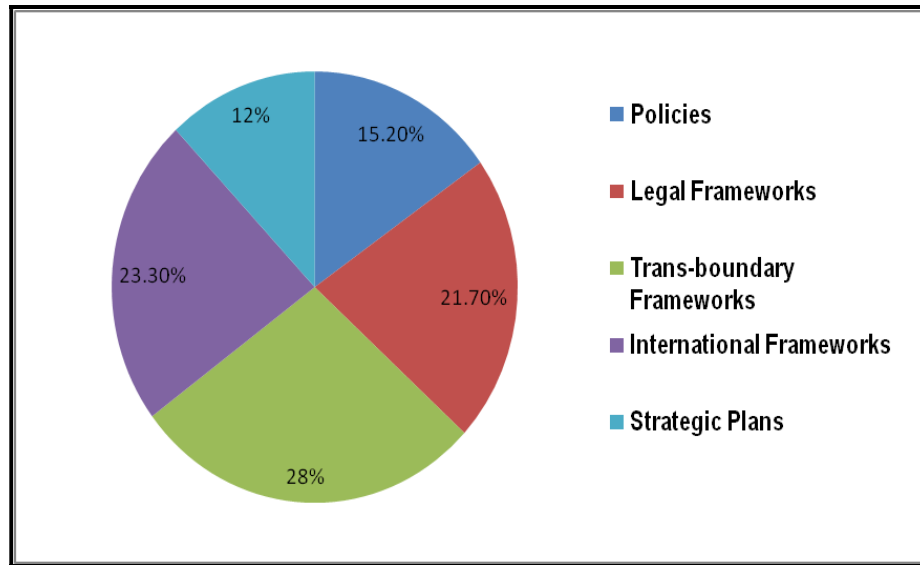


Figure 5- 3: Overall PPP integration gaps for the Ecological Management Programme

Table 5- 2: Summary of PPP gap analysis for the Tourism Development and Management Programme

a) Trans-boundary frameworks

Name of framework	PPP environmental obligation gaps	Gap percentage
1. EAC Protocol on Environment and Natural Resources	Article 26 - Tourism development	28.5%
	2(g) Supporting the development of common and coordinated marketing and promotion strategies, action plans, and implementation programmes for promoting both intra-regional tourism	
	(i) Developing a code of conduct for tourists and tour operators	
	(iv) Promoting rain water harvesting, protection of water wells and springs, and other water sources	
2. EAC Climate Change Policy (EACCCP) – 2011	Infrastructure	11.7%
	(i) Promoting climate change integration in all planning and design of infrastructure	
	Energy	
	(ii) Promoting of renewable energy technologies (solar power, wind energy)	
	vi) Enhancing energy efficiency and saving	

b) National policies

Name of policy	PPP environmental obligation gaps	Gap percentage
1. Draft Environment Policy (2012)	<ul style="list-style-type: none"> Adopting measures and incentives and disincentives to promote the re-use, recycling and reclamation of re-usable packaging material and combats the pollution of the 	20%

	environment.	
	• Supporting establishment of constructed wetlands for waste management	
	• Working with private sector, NGOs and CBOs to enhance corporate and social responsibility and accountability	
2. National Water Policy (2012 Draft)	i) Improving effluent waters treatment and recycle for use	8.3%
3. Draft National Policy on Wetlands Conservation and Management (2013)	11.6(2): Ensuring that workplace initiatives are adapted for people with HIV/AIDS	9%
4. Draft Wildlife Policy (2011)	Other Policy goals	16.6%
	• Supporting the establishment of constructed wetlands in business areas	
	8.6 Social Sustainability	
	i) Encouraging the private sector to undertake environmental CSR	
	Other Policy goals	
5. Draft National Tourism Policy (2007)	• Ensuring the empowerment of women	28.5%
	• Setting of clear standards and guidelines for environmental sanitation	
	• Increasing environmental sanitation awareness across the country	
	• Developing integrated environmental management principles for all tourism and other major economic development projects	
	• Implementing and promoting awareness among all tourism stakeholders	

c) National strategic plans

Name of framework	PPP environmental obligation gaps	Gap percentage
1. National Environment Action Plan (2009-2013)	The management plan is expected to support the following environmental activities <ul style="list-style-type: none"> Controlling of fire outbreaks 	7.6%
2. National Biodiversity Strategy and Action Plan (2000)	The management plan is expected to support the following environmental strategic actions <p>4.3.2: Supporting <i>in situ</i> conservation outside protected areas</p>	9%
3. National Climate Change Response Strategy (2009)	d) Physical Infrastructure including transportation and telecommunication networks <ul style="list-style-type: none"> Ensuring that all new infrastructure is climate-proof over its lifespan 	16.6%

5.2.3: Community partnership and education

This programme had a total of 36 PPP integration gaps with most of the gaps mainly concentrated on national environmental policies (37.96%), followed by national strategic plans (37%) and trans-boundary environmental frameworks (25%) as shown in Figure 5-4). The programme was better integrated with in terms of national environmental legal frameworks and MEAs just like the Tourism Development and Management Programme but it was weak in terms of embracing the key national policies on social issues. A total of 15 national policies have not been effectively captured in the AEMP through the first 3-yr activity plan including the National Forest Policy (2005), Draft National Policy on Wetlands Conservation and Management (2013), Sessional Paper No. 6 of 1999 on Environment and Development, Draft Environment Policy (2012), National Policy for the Sustainable Development of Arid and Semi-Arid Lands of Kenya (2012), National Gender and Development Policy, National HIV policy, and Draft National Policy on Peace Building and Conflict Management (2006).

The key national strategic plans and trans-boundary frameworks which were not featuring adequately in the plan activities included the Kenya Vision 2030, National Climate Change Response Strategy (2009), National Environment Action Plan (2009-2013), National Biodiversity Strategy and Action Plan (2000), EAC Protocol on Environment and Natural Resources, and the EAC Climate Change Policy (EACCCP 2011). The poor visibility of the Vision 2030 in the Community Partnership and Education Programme is not good because the strategy is expected to have a significant influence on the social environment around the country the Amboseli region included. Table 5-3 provides the full details on the programme PPP gap analysis.

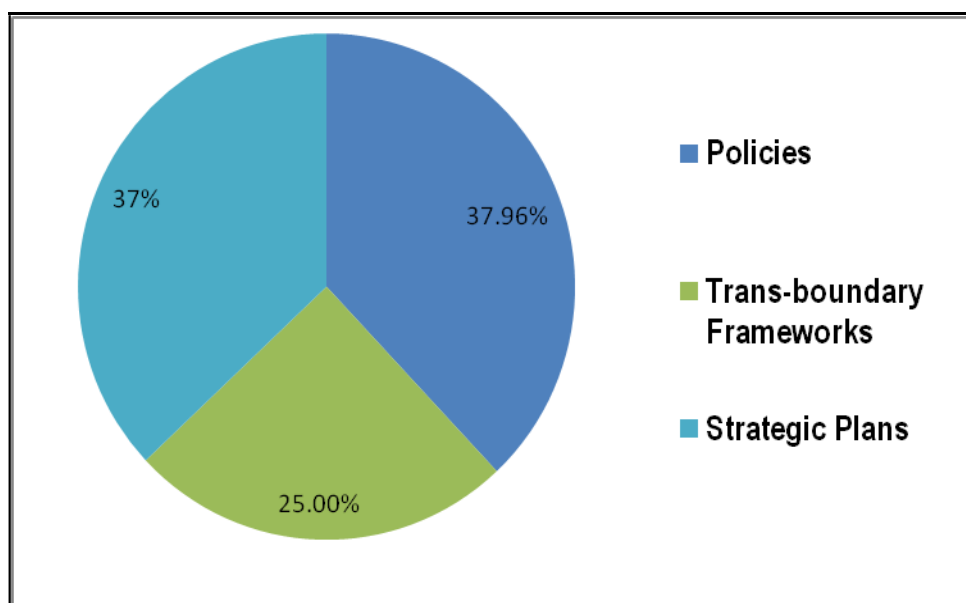


Figure 5- 4: Overall PPP integration gaps for the Community Partnership and Education Programme

Table 5- 3: Summary of PPP gap analysis for the Community Partnership and Education Programme

a) Trans-boundary frameworks

Name of framework	PPP environmental obligation gaps	Gap percentage
1. EAC Protocol on Environment and Natural Resources	Article 26 - Tourism development 2. (f) Supporting the establishment of regional quality and standards control mechanism harmonizing the standards for registration, accreditation and grading of tourism service providers and tourism facilities;	14.2%
	Article 31 - Environmental impact assessment and audits 2. Supporting trans boundary EIAs for trans-boundary activities and projects that may have significant adverse environmental impacts.	
2. EAC Climate Change Policy (EACCCP) – 2011	Section 3.1.3 Adaptation policy statements and priority actions 3.1.3.1 Vulnerability reduction and building economic and social resilience (iv) Enhancing disaster risk preparedness through inter alia: production, acquisition and dissemination of weather and climate information services for improved early warning systems (EWS)	17.6%
	Energy (ii) Promoting of renewable energy technologies (solar power, wind energy)	
	(vi) Enhancing energy efficiency and saving	

b) National policies

Name of policy	PPP environmental obligation gaps	Gap percentage
1. The Constitution of Kenya	(b) Working towards the achievement and maintaining a tree cover of at least 10% of the land area of Kenya by the year 2030	8.3%
2. Sessional Paper No. 6 of 1999 on Environment and Development	Wetlands • Supporting the development of integrated management plans for sustainable and multiple use of wetlands	29.4%
	Rangeland resources • Discouraging inappropriate conversion of ASALs into agriculture • Encouraging Kenyans to have family sizes which are sustainable	
	Other policy goals • Adherence to the polluter pays principle • Adopting measures and incentives and disincentives to promote the re-use, recycling and reclamation of re-usable packaging material and combats the pollution of the environment.	
	• Supporting establishment of constructed wetlands for waste management	
3. Draft Environment Policy (2012)	• Formulating an innovative strategy to increase forest and tree cover from the current 2% to at least 10% by 2030	20%

	<ul style="list-style-type: none"> Promoting and institutionalizing payment for environmental services schemes to support watershed protection initiatives 	
4. National Land Policy (2009)	a) Ensuring increased per capita water availability above the international benchmark of 1000 m ³ by 2030	11%
5. National Water Policy (2012 Draft)	i) Improving effluent waters treatment and recycle for use	8.3%
6. National Policy for the Sustainable Development of Arid and Semi-Arid Lands of Kenya (2012)	5.2.3.3 Security and the rule of law <ul style="list-style-type: none"> Strengthening traditional systems of governance and alternative dispute resolution mechanisms 	12.5%
7. Draft National Policy on Wetlands Conservation and Management (2013)	Policy Statement 2: Ensuring that natural wetlands under private ownership will be subject to regulations	36%
	Policy Statement 8: Ensuring that any land resulting from receding of natural wetlands shall continue to remain inalienable state land and be regarded as riparian land and shall not be allocated as private land	
	2.2.2 Establishment of Wetland Conservation Areas Policy Statement 3: Ensuring that special wetland sites are designated and gazette as conservation areas to be protected as wetland reserves where no consumptive uses will be allowed	
	11.3.2(3): Providing incentives to provide the under-represented gender into wildlife conservation careers and occupations	
8. Draft Wildlife Policy (2011)	Other policy goals <ul style="list-style-type: none"> Support the establishment constructed wetlands in business areas 	3.3%
9. National Forest Policy (2005)	<ul style="list-style-type: none"> Rehabilitation of forests Establishment of nurseries and production of seedlings 	50%
	Other policy goals: <ul style="list-style-type: none"> Considering the needs and aspirations of all Kenyan men, women, boys and girls across economic, social and cultural lines. 	
10. National Policy for Disaster Management	<ul style="list-style-type: none"> Ensuring the empowerment of women 	33.3
11. National Gender and Development Policy	<ul style="list-style-type: none"> Ensuring the use of sanitation systems that are environmentally sound 	100%
	<ul style="list-style-type: none"> Preventing environmental pollution from liquid and solid waste 	
12. National HIV policy	Other policy goals <ul style="list-style-type: none"> Setting of clear standards and guidelines for environmental sanitation 	100%
13. Draft National Policy on Peace Building and Conflict Management (2006)	Establishing and strengthen the community capacity to maintain effective systems for conflict early warning and early response	100%

c) National strategic plans

Name of framework	PPP environmental obligation gaps	Gap percentage
1. Vision 2030	The management plan is expected to support the following environmental flagship activities	30%
	p) Supporting carbon offset schemes	
	q) Supporting schemes on compensation for environmental services	
2. National Environment Action Plan (2009-2013)	The management plan is expected to support the following environmental activities	7.6%
	p) Management of invasive alien species	
3. National Biodiversity Strategy and Action Plan (2000)	The management plan is expected to support the following environmental strategic actions 4.1.2: Gender concerns - Promoting gender awareness and involvement in all biodiversity programmes and projects	9%
4. National Climate Change Response Strategy (2009)	e) Physical Infrastructure including transportation and telecommunication networks <ul style="list-style-type: none"> Ensuring that all new infrastructure is climate-proof over its lifespan 	16%

5.2.4: Security

The programme had a total of 3 PPP gaps with the highest non-integration associated with international frameworks (MEAs) (37.6%), followed by legal frameworks (23.95%), strategic plans (21.7%) and finally national policies (16.8%) as shown in Figure 5-4. The MEAs which were featuring very marginally in the first 3-yr activity plan was the United Nations Convention to Combat Desertification. The affected national frameworks were the National Policy for the Sustainable Development of Arid and Semi-Arid Lands of Kenya (2012), Tourism Act, No. 28 of 2012, and the National Environment Action Plan (2009-2013). Table 5-4 provides the full details on the programme PPP gap analysis.

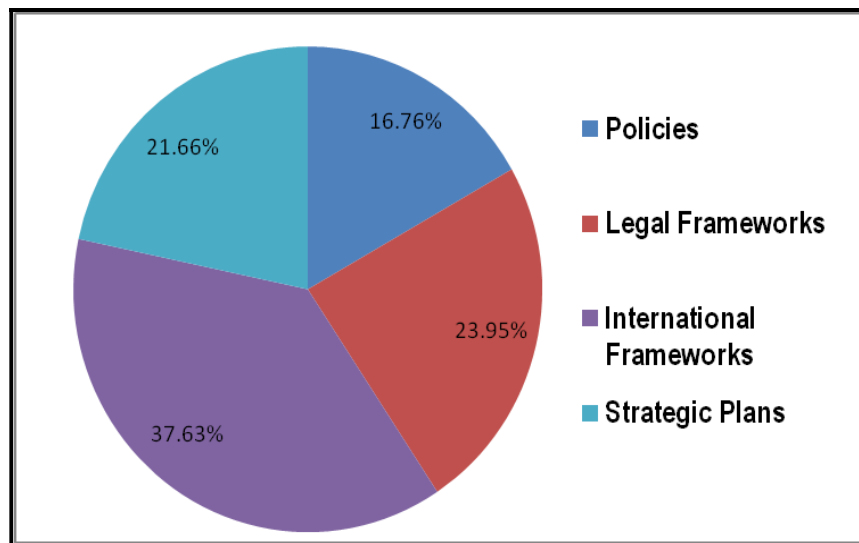


Figure 5- 5: Overall PPP integration gaps for the Community Partnership and Education Programme

Table 5- 4: Summary of PPP gap analysis for the Security Programme

a) Trans-boundary frameworks

Name of framework	PPP environmental obligation gaps	Gap percentage
1. United Nations Convention to Combat Desertification	(d) Establishment of alternative livelihood projects that could provide incomes in drought prone areas	11.1%

b) National policies

Name of framework	PPP environmental obligation gaps	Gap percentage
1. National Policy for the Sustainable Development of Arid and Semi-Arid Lands of Kenya (2012)	5.2.3.3 Security and the rule of law <ul style="list-style-type: none"> Strengthening traditional systems of governance and alternative dispute resolution mechanisms Applying conflict-sensitive approaches to development 	25%

c) National legal frameworks

Name of framework	PPP environmental obligation gaps	Gap percentage
1. Tourism Act, No. 28 of 2012	Section 28: Supporting the establishment of the Tourism Protection Unit	100%

d) National strategic plans

Name of framework	PPP environmental obligation gaps	Gap percentage
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1. National Environment Action Plan (2009-2013)	g) Ensuring protection of water catchments	15.4%
	m) Controlling of fire outbreaks	

5.2.5: Ecosystem operations

The programme had a total of 33 PPP gaps with the highest non-integration mainly concentrated on the MEAs (35.3%), trans-boundary environmental frameworks (34.4%), national environmental policies (21.1%), national legal frameworks (7.5%), and strategic plans (3%) as shown in Figure 5-5. Some of the MEAs which were not featuring in the first 3-yr activity plan included; a) the Seville Strategy for the Management of Biosphere Reserves, b) the Madrid Action Plan (2008-2013) for Biosphere Reserves, c) United Nations Framework on Combating Climate Change (UNFCC), and d) the United Nations Convention to Combat Desertification. The weakness in the AEMP with regard to inadequate or no consideration of the international frameworks associated with the UNESCO MAB programme on Biosphere Reserves is unfavourable because it means that the ecosystem might not effectively embrace the spirit of the UNESCO MAB programme Biosphere Reserves. This might also mean that Amboseli Ecosystem might not benefit sufficiently from the various types of support originating from UNESCO as well as other partners such as AfriMAB and the Kenya National Commission for UNESCO (KNATCO). This notwithstanding the fact that the focal point for the AfriMAB is based at the KWS head office in Nairobi.

The trans-boundary environmental frameworks which were not featuring in the AEMP were the EAC Climate Change Policy (EACCCP 2011), and the East African Community Trans boundary Ecosystems Management Bill, 2010. This could eventually limit the level of collaboration between Amboseli Ecosystem and the critical cross-border ecosystems in Tanzania such as the Mount Kilimanjaro on which it is heavily dependent both hydrologically and ecologically. This planning weakness could hinder the trans-boundary ecosystem management programmes and activities which some of the organizations such as AWF and IFAW are advocating in the region.

A total of 13 important national policies were found to be featuring inadequately in the first 3-yr activity plan in terms of their environmental obligations. Some of the affected national environmental policies were:- a) Draft National Policy on Peace Building and Conflict Management (2006), b) National Land Policy (2009), c) Draft Environment Policy (2012), d) National Gender and Development Policy, and e) National Policy for Disaster Management (2009). The affected national legal frameworks were:- a) Environmental Management and Coordination Act (EMCA, 1999), and b) Forest Act (2005). The new Wildlife (Conservation and Management) Act as in the Bill, 2013 was also not fully captured probably because of the fact that the plan was formulated before the review process started. Table 5-5 provides the full details on the programme PPP gap analysis.

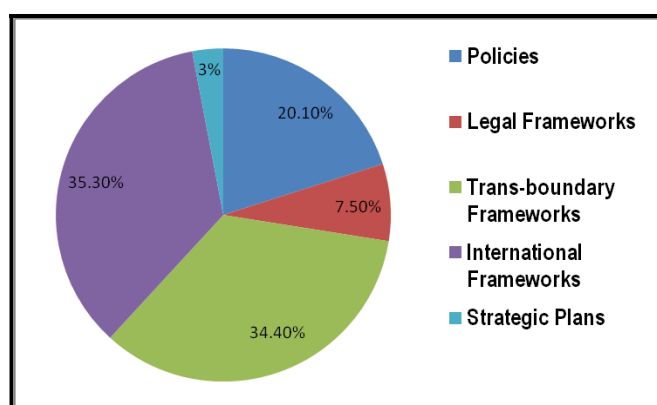


Figure 5- 6: Overall PPP integration gaps for the Ecosystem Operations Management Programme

**Table 5- 5: Summary of PPP gap analysis for the Security Programme
Trans-boundary frameworks**

Trans-boundary framework	PPP environmental obligation gaps	Gap percentage
1. EAC Climate Change Policy (EACCCP) – 2011	Tourism (ii) Developing and diversifying tourism products which are not very sensitive to climate change	7.1%
	Infrastructure (i) Promoting climate change integration in all planning and design of infrastructure	47.1%
	(ii) Promoting community based approach to disaster risk reduction and community based adaptation	
	(iii) Promoting climatic risk assessment and monitoring through vulnerability assessment, risk and hazard mapping	
	(iv) Enhancing disaster risk preparedness through inter alia: production, acquisition and dissemination of weather and climate information services for improved early warning systems (EWS)	
	v) Promoting management of cross-border natural resource based conflict as result of stress on water and pasture for pastoral communities	
	(vi) Promoting the Disaster Risk Reduction (DRR) concept through the five priorities areas of the Hyogo Framework for Action (HFA),	
	Energy (ii) Promoting of renewable energy technologies (solar power, wind energy)	50%
	vi) Enhance energy efficiency and saving	
2. The East African Community Trans boundary Ecosystems Management Bill, 2010	Overall goal To provide for the management and regulation of trans boundary ecosystems of the East African Community, to establish a commission for the management of trans boundary ecosystems and to provide for other related matters.	
	(h) Ensuring environmental awareness on trans-boundary	
	(j) Promoting international cooperation between the East African Community and other regional organizations in the management of transboundary ecosystems	

a) International frameworks

Name of framework	PPP environmental obligation gaps	Gap percentage
1. Seville Strategy for the management of Biosphere Reserves	Goal III: Research, monitoring, education and training Objective III(1): Improve knowledge of the interactions between humans and the biosphere 1. Using the World Network of Biosphere Reserve (WNBR) for cooperative research programmes	83.3%
	b) Encouraging interactions between the WNBR	
	Objective III(2): Monitoring activities a) Encouraging and develop linkages with other BRs in the country and the world	
	Objective III(3): Education and public awareness a) Exchanging of experience and information between BRs	
	Objective III(4): Staff training	
	Target 23 - Launching specific UN-DESD programs in BRs with a number of associated schools	
2. Madrid Action Plan (2008-2013) – 60 actions and 34 targets	Article 6: Education, training and public awareness A(i) The development and implementation of educational and public awareness programmes on climate change and its effects	50%
3. United Nations Framework on Combating Climate Change	Article 5: Obligations for affected countries b) Establishing strategies and priorities to combat desertification and mitigate the effects of drought	100%
4. United Nations Convention to Combat Desertification	(d) Promoting awareness and facilitate the participation of local populations, particularly women and youth, with the support of non-governmental organizations, in efforts to combat desertification and mitigate the effects of drought	

b) National policies

Name of policy	PPP environmental obligation gaps	Gap percentage
1. The Constitution of Kenya	(g) Eliminating processes and activities that are likely to endanger the environment	8.3%
2. Sessional Paper No. 6 of 1999 on Environment and Development	Rangeland resources Discouraging inappropriate conversion of ASALs into agriculture	11.8%
3. Draft Environment Policy (2012)	Land Degradation, Drought and Desertification <ul style="list-style-type: none"> Developing drought and desertification monitoring and early warning systems 	46.7%
	<ul style="list-style-type: none"> Developing an integrated, improved early warning and response systems for climate change and disaster risks 	
	<ul style="list-style-type: none"> Developing and implementing Drought and Desertification Monitoring and Early Warning Systems 	
	<ul style="list-style-type: none"> Encouraging CDM investments for climate change mitigation 	
	<ul style="list-style-type: none"> Promoting and institutionalizing payment for environmental services schemes to support watershed protection initiatives 	
	Natural resource management <ul style="list-style-type: none"> Promoting low-maintenance water technologies with an emphasis on water harvesting 	
	2.2.2 Establishment of Wetland Conservation Areas Policy Statement 3: Ensuring that special wetland sites are designated and gazette as conservation areas to be protected as wetland reserves where no consumptive uses will be allowed	
	11.3.2(3): Providing incentives to provide the under-represented gender into wildlife conservation careers and occupations	
4. National Land Policy (2009)	<ul style="list-style-type: none"> Developing an effective mechanism for sharing benefits including revenue with communities living adjacent to PAs. 	55.5%
	<ul style="list-style-type: none"> Developing and implement wildlife disaster preparedness, response and rescue strategy 	
	<ul style="list-style-type: none"> Educating the public and raising awareness on the critical role of wetlands, rivers and lake ecosystems 	
	<ul style="list-style-type: none"> Incorporating or domesticating the provisions of the relevant wildlife related Multi-lateral Environment Agreements (MEAs) to which Kenya is a Party 	
	<ul style="list-style-type: none"> Putting in place mechanisms to identify, control and eradicate invasive alien species in wildlife conservation areas in collaboration with relevant lead agencies. 	
5. National Water Policy (2012 Draft)	d) Enhancing storm water management and rainwater harvesting	16.7%
	i) Improving effluent waters treatment and recycle for use	
6. National Policy for the Sustainable Development of Arid and Semi-Arid Lands of Kenya (2012)	Natural resource management <ul style="list-style-type: none"> Promoting low-maintenance water technologies, with an emphasis on water harvesting 	12.5%
7. Draft National Policy on Wetlands Conservation and Management (2013)	2.2.2 Establishment of Wetland Conservation Areas Policy Statement 3: Ensuring that special wetland sites are designated and gazette as conservation areas to be protected as wetland reserves where no consumptive uses will be allowed	9.1%
8. Draft Wildlife Policy (2011)	11.3.2(3): Providing incentives to provide the under-represented gender into wildlife conservation careers and occupations	3.3%
9. National Horticulture Policy	8.3 Environmental Sustainability 8.3.2 Proposed Policy Interventions iii) Instituting appropriate measures to promote water harvesting, irrigation, recycling of water, and damming.	66.7%
	8.6 Social Sustainability i) Encouraging the private sector to undertake environmental CSR	
10. National Policy for Disaster Management	2.1: Promoting the mainstreaming of disaster management and climate change into development planning and management for sustainability	33.3%

11. National Gender and Development Policy	<ul style="list-style-type: none"> Ensuring the empowerment of women 	50%
12. Draft National Tourism Policy (2007)	<ul style="list-style-type: none"> Maximizing the co-ordination between conservation programmes of Government agencies and non-governmental organizations 	14.3%
13. Draft National Policy on Peace Building and Conflict Management (2006)	<ul style="list-style-type: none"> Establishing and strengthen the community capacity to maintain effective systems for conflict early warning and early response 	100%

c) National legal frameworks

Name of framework	PPP environmental obligation gaps	Gap percentage
1. Environmental Management and Coordination Act (EMCA) No. 8 of 1999	<p>Ensuring integration with all other relevant EMCA Regulations including the following:-</p> <ul style="list-style-type: none"> The Environmental management and coordination (Noise And Excessive vibration Pollution Control) Regulation, 2008 Water Quality Regulations, 2006 (Legal notice No. 121) Waste Management Regulations, 2006 (Legal Notice No.121) Air Quality, Regulations, 2008 Fossil Fuel Emission Control Regulations (2006) Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit sharing Regulations (2006) Draft E-Waste Management, Regulations 2013 	18.1%
2. Forest Act No. 7, of 2005	Supporting PES initiatives for carbon sequestration and other environmental services	16.7%
3. Wildlife (Conservation and Management) Act Cap 376 of 1976, 1989 & Bill, 2013	Supporting the establishment of wildlife Development Fund for development of conservation areas	20%

d) National strategic plans

Name of framework	PPP environmental obligation gaps	Gap percentage
1. National Climate Change Response Strategy (2009)	Ensuring that all new infrastructure is climate-proof over its lifespan	16.7%

6. STAKEHOLDER CONSULTATIONS AND PUBLIC CONCERNS

6.1 INTRODUCTION

The stakeholder consultations for the Amboseli Plan SEA were undertaken on 21st-26th October 2013. This involved direct interactions through key informant discussions especially with government officers, conservational NGOs, public sector and individual members of the public. Focus Group Discussions were used in the case of public groups such as ATGRCA, Conservancy Representatives and WRUAs. The target stakeholders were identified during the orientation field mission undertaken earlier. Table 6-1 shows the key categories of stakeholders selected for consultation and the justification for their involvement in the SEA process. The list of stakeholders consulted in the SEA process is given in Appendix IV.

Table 6- 1: Summary of the stakeholders consulted during the SEA process

Stakeholder category	Stakeholder identity	Stakeholder profile and relevance
Local community	Amboseli Ecosystem Trust (AET)	This is the cross-sectoral institutional structure which was created by the Amboseli Ecosystem Management Plan (2008-2018) to coordinate and provide leadership for the implementation of the plan.
	Amboseli Tsavo Group Ranches Conservation Association (ATGRCA)	This is the umbrella association which coordinates the affairs of the local people in the six group ranches in the Amboseli ecosystem. The association forms the key structure for tourism revenue sharing. In addition, they represent the interest of the main stakeholders who have the biggest contribution of land in the ecosystem which is used by wildlife and the truth is that the future of the ecosystem and its wildlife depends on securing and protecting the key changes in the group ranches. Further, the community they represent should be worn now and in future if they are to continue to allow wildlife to freely use their land and associated resources
	Conservancy Landowners Association	This is an umbrella association representing the interests of the various conservancies located within the group ranches in the ecosystem which are critical in sustaining the wildlife dispersal and migratory corridors which are seriously threatened by the on-going land sub division, sale of land, farming activities and expansion of human settlements and associated infra-structure development
	Amboseli Tsavo Game Scout Association (ATGSA)	This is the umbrella association coordinating the operations of the wildlife game scouts and water scouts in all the group ranches. It provides an important avenue for linkages with KWS, Kenya Police and other conservation organizations such as Big Life Foundation
	Water Resource User Associations (WRUAs)	These are associations of local communities located in a number of areas within the ecosystem especially along rivers and around critical springs and wetlands. They provide an avenue for collaborative water resources management at grass root level and easy partnership with WRMA
	Amboseli Cultural Villages	These are villages operated by local communities around the Amboseli National Park and provide a window for tourism revenue trickle down to the local people in the ecosystem
	Amboseli Curio Traders	The curio shops are operated by local communities around the Amboseli National Park and provide a window for tourism revenue trickle down to the local people in the ecosystem
NGOs	African Wildlife Foundation (AWF)	This is an international and regional conservation NGO which is working in the area, and has been around for more than two decades. Through an innovative land-lease programme, African Wildlife Foundation has partnered with local landowners in the Amboseli region to reduce human-wildlife conflict while expanding the land conserved for wildlife. This programme uses direct payments to landowners for every acre set aside for conservation and safeguarded against poaching, subdivision, and other activities that could degrade habitat. AWF also works with communities to employ and train scouts to patrol the land and uphold land-use restrictions. They have done all manner of conservation and community research all geared towards enhanced local livelihoods, conservation of wildlife and other critical resources like water whilst promoting co-existence between wildlife and locals. The NGO has also been in the forefront in educating and raising conservation awareness and sustainable use of the environment among the local Maasais
	African Conservation Centre	This is a regional conservation NGO which is working in the area. Started in 1967, the

	and African Conservation programme (ACP)	Amboseli Conservation Programme (ACP) aims to explain the factors that govern the structure, dynamics, and changes of the ecosystem and the interactions between wildlife and people. ACP is also dedicated to the conservation of Amboseli ecosystem and its biodiversity endowments. The programme was directly involved in the planning, establishment, and development of Amboseli National Park. It has played a continuing role in the conservation of the park and ecosystem over the years since. It is championed by Dr. David Western
	Big Life Foundation	Big Life was founded in Sept. 2010 by photographer Nick Brandt and conservationist Richard Bonham as a non-profit organization dedicated to the preservation of Africa's wildlife and ecosystems. It has now expanded to employ 315 rangers, with 31 outposts and 15 vehicles protecting 2 million acres of wilderness in the Amboseli-Tsavo ecosystem of East Africa. It is the only organization in East Africa with co-ordinated cross-border anti-poaching operations especially in the Amboseli region
	School for Field Studies (SFS)	SFS is an affiliate of Boston University USA which is located in the ecosystem. It trains students and undertakes research on the steady shift in land use from purely pastoral to mixed agro pastoral systems in the Maasai group ranches that occupy the land between Amboseli and Tsavo West National Parks in southern Kenya. It has been in the region since 1999, and has managed to generate substantial socio-ecological data especially in the former Kimana/Tikondo group ranch, Kuku, Mbirikani and Olgulului-Ololorashi. This findings have consistently been shared with diverse stakeholders including local leaders and communities
	International Fund for Animal Welfare (IFAW)	The IFAW Amboseli Elephant project was launched in 2010 to protect elephants in Kenya called the Amboseli Elephant Project. The Amboseli Elephant Project focuses on three elements critical to the survival of the Amboseli ecosystem and the elephants that depend on it for survival: <ul style="list-style-type: none"> • Helping the Kenya Wildlife Service (KWS) better protect the core area of Amboseli National Park • Assisting the world-famous Amboseli Elephant Research Project with ground-breaking scientific research on elephants • Partnering with a community group ranch outside the park to help secure land vital to migrating elephants and local Maasai tribal people
National Government Officers	Local Administration	The government officers are playing the role of implementing government policies, plans and programme in the Amboseli ecosystem including the enforcement of various legal frameworks on environment and natural resources
	Senior Warden, KWS Amboseli National Park and Team	
	KWS Regional Warden	
	Sub-Regional Manager, WRMA	
	Livestock Development	
	Agriculture	
	Education	
	Health	
Olkejuado County Government Officers	County Governor	The county government is in charge of all governance issues within the ecosystem and is expected to support the implementation of the Amboseli Ecosystem Management Plan
	Deputy County Governor	
Tourism Investors	Manda CAEMP	The investors are involved in a wide range of tourism businesses in the Amboseli ecosystem thereby earning the country vital revenue as well as creating employment
	Amboseli Serena Lodge	
	Oltukai Lodge	
	Tawi Lodge	
	Oi Donyo Lodge	
	Satao-Elerai Camp	

6.2: ECOLOGICAL MANAGEMENT

Table 6-2 provides a summary of the contributions made by various stakeholders towards the PPP gaps in the AEMP as identified in Section 5.

Table 6- 2: Stakeholder contributions for the PPP gaps in the Ecological Management Programme

a) Trans-boundary frameworks

Name of framework	PPP obligation gap issues	Stakeholder contributions
1. EAC Protocol on Environment and Natural Resources	<ol style="list-style-type: none"> 1. Agreements or strategies for the management of trans boundary wildlife ecosystems and protected areas 2. Strategies for regional cooperation and exchange of data and information on trans boundary mountain ecosystems 	<ul style="list-style-type: none"> • According to WRMA, some interactions exist between the water sector managers in Kenya and Tanzania within the Oloitokitok and Taveta regions. However, no formal agreements have been established. • Big Life Foundation undertakes joint cross border operations in partnership with KWS and TANAPA through the services of 264 game scouts in Kenya, and 70 in Tanzania as well as about 32 informers in the two countries. Big Life has 31 outposts and 15 vehicles protecting 2 million acres of wilderness in the Amboseli-Tsavo ecosystem of East Africa
2. EAC Climate Change Policy (EACCP) – 2011	a) Meteorological infrastructure for climate change monitoring and detection	<ul style="list-style-type: none"> • The KWS meteorological infrastructure in Amboseli Ecosystem is expected to expand and extend beyond the national park
3. The East African Community Trans boundary Ecosystems Management Bill, 2010	a) Regional cooperation in the management of trans boundary ecosystems	As in (1) above

b) International frameworks

Name of framework	PPP obligation gap issues	Stakeholder contributions
1. Seville Strategy for the management of Biosphere Reserves	Staff training <ol style="list-style-type: none"> a) Seeking WNBK to support local training e.g. through AfriMAB or UNESCO through KWS b) Future role of ANP as regional BR training center through AfriMAB or UNESCO 	<ul style="list-style-type: none"> • There is no tangible evidence for collaborative interaction between the Amboseli BR and relevant UNESCO-MAB institutions in Kenya such as the Kenya National Commission for UNESCO or Africa Region such as AfriMAB or the head office at UNESCO Secretariat. There is limited exchange of experience between Amboseli biosphere Reserve and other BRs in Kenya such as Mt. Kenya BR, Mt. Elgon BR (proposed as TBR), Mt. Kulal BR, Malindi-Watamu Marine BR, and Kiunga Marine BR • The establishment of a resource centre at Amboseli could eventually explore opportunities for greater partnership with UNESCO-MAB
2. Madrid Action Plan (2008-2013) – 60 actions and 34 targets	a) Any specific UN-DESD programmes in BRs with associated schools	There are no BR outreach programmes for environmental education and awareness. However, Amboseli KWS Park management is willing to engage in such initiatives if funding is available
3. United Nations Convention to Combat Desertification	a) Sustainable irrigation strategies	WRMA and WRUA indicated that there are very few initiatives to switch from fallow irrigation to more sustainable methods of irrigation. Cost factor was highlighted as a major deterrent for the uptake of greenhouse irrigation while drip irrigation is unpopular because of pipe destruction by elephants. The National Irrigation Board has not introduced drip irrigation in the Amboseli area because the area is considered to have sufficient water for irrigation courtesy of over 175 springs that have their source at Mt Kilimanjaro

c) Policies

Name of policy	PPP obligation gap issues	Stakeholder contributions
1. The Constitution of Kenya	a) Upgrading national tree cover to at least 10% by the year 2030	<p>Some WRUAs in their SCMP are planning to plant indigenous trees at key water sources:-</p> <ol style="list-style-type: none"> 1. Nolturesh SCMP, 2010 - There is a plan to establish two tree nurseries of 1000 seedlings each at Shurie and Enkutoto 2. Nalepo SCMP, 2009 - Establishment of 3 tree nurseries

2. Sessional Paper No. 6 of 1999 on Environment and Development	a) Incentives for rain water harvesting	<p>The following Sub-Catchment Management Plans (SCMPs) in the Amboseli Ecosystem have proposals for dam construction and rain harvesting water tanks as follows:-</p> <ol style="list-style-type: none"> 1. Nolturesh SCMP, 2012 – Construction of 4 dams between Shurie and Enkutoto 2. Nolturesh SCMP, 2012 – Construction of Construct 10 water pans 3. Nolturesh SCMP, 2012 – Installation of 100m³ rain water harvesting tanks in 11 schools in the catchment 4. Ilkisonko SCMP, 2010 – Has a 10 million budget for dam construction in 2010-2014 5. Nalepo SCMP, 2009 - Construction of 3 dams and 2 water pans 6. Nalepo SCMP, 2009 – Installation of institutional rainwater harvesting facilities in 10 sites
3. Draft Environment Policy (2012)	a) Strategies for environmental corporate social responsibility	<p>Big Life Foundation is already undertaking a number of CSR including the following:-</p> <ol style="list-style-type: none"> 1. Big Life Foundation's Education and Wildlife Scholarship Programme has to date sponsored in excess of two-hundred students in primary, secondary, and tertiary education through contributions from individuals. Currently Big Life is sponsoring a total of 87 students. A contribution of \$US 800 sponsors a high school student for a full year. Many of these students return to their home areas to provide leadership and much needed skills and services. 2. Big Life has facilitated the establishment of two primary schools and one boarding school, providing education for over 300 students a year, over and above this we have constructed classrooms and renovated facilities for six other schools, provided educational materials, sports equipment, and books that have helped raise standards of education 3. The School for Field Studies (SFS) has been offering annual summer scholarships mostly to form four leave in Kimana area, Mbirikani and Kuku group ranches for studies in the community conservation program. Since 2011, selected students have been studying at the SFS sister camps located near Karatu in Tanzania. Most of the locals who have done the SFS summer programs have been employed especially in conservation related fields
4. National Land Policy (2009)	a) Development of wildlife sanctuaries and conservancies	<p>Members of the Amboseli Conservancy Association indicated that there are over 10 conservancies within the ecosystem</p>
5. National Water Policy (2012 Draft)	a) Strategies for trans-boundary water resources water resources management	<p>According to WRMA, some interactions exist between the water sector managers in Kenya and Tanzania within the Loitokitok and Taveta regions. However, no formal agreements have been developed</p>
6. Draft National Policy on Wetlands Conservation and Management (2013)	b) Strategies for ensuring that drainage and reclamation of wetlands is not allowed without considering the wider public interest	<p>WRMA and WRUA stakeholders indicated that:-</p> <ul style="list-style-type: none"> • The Ilkisonko Sub-Catchment Management Plans (SCMP) in the Amboseli Ecosystem have proposals for undertaking wetland surveys to establish wetland boundaries • Kimana Integrated Wetland Management Plan (2008-2013) proposed that 30% of wetland water should be released on continuous basis to cater for downstream wildlife watering needs • Kimana Integrated Wetland Management Plan (2008-2013) proposed that There will be no further reclamation of Kimana wetland for agricultural development
	c) Strategies for restoration and rehabilitation programmes for degraded wetlands	<ul style="list-style-type: none"> • The Amboseli Conservation Research Programme (ACRP) is undertaking pilot rehabilitation work in Amboseli National Park for both woodland and wetland rehabilitation which could eventually be up scaled in other affected ecosystems in the region • Kimana Integrated Wetland Management Plan (2008-2013) proposed relieving pressure in this area as well as encourage regeneration of the wetland vegetation • Between 2008 and 2010, the School for Field Studies and Noomayianat Community Development Organization (NCDO), a CBO based in Kimana managed to undertake a detailed water situation analysis in; Impironi, Elerai and Kimana/Tikondo. They also rehabilitated and constructed a total of 15Km long irrigation furrows

		and fenced a key spring source at Impironi. The activities were funded by the Community Development Trust Fund (CDTF) through their Community Environmental Facility (CEF)
7. Draft Wildlife Policy (2011)	a) Strategies for establishing and building the capacity of local communities to bolster security in wildlife conservation areas	Kimana Integrated Wetland Management Plan (2008-2013) proposed an increase in the number of community game scouts
	b) Strategies for effective mechanism for sharing benefits including revenue with communities living adjacent to PAs.	Kimana Integrated Wetland Management Plan (2008-2013) proposed a realignment in terms of product enhancement to market Kimana, Imbirikani, and Kuku as a prime high value, world class tourism destination
	c) Strategies for recovery plans for the conservation and survival of endangered and threatened species	Kimana Integrated Wetland Management Plan (2008-2013) proposed an increase in the number of community game scouts
	d) Long term plans for erecting and maintaining game barriers and other approved deterrent measures to minimize HWCs	Kimana Wetland Management Plan (2008-2013) proposed the rehabilitation of the Namelok-Olgulului-Kimana Elephant fence
8. National Forest Policy (2005)	a) Strategies for trans-boundary collaboration to ensure sustainable management of cross-border forests	Both KFS and TFS are managing forest plantations along the Kenya-Tanzania border
9. Draft National Policy on Peace Building and Conflict Management (2006)	a) Capacity for conflict early warning and early response	Most stakeholders agree that there is a high likelihood for water related resource conflict in the Amboseli region due to the rapid expansion of irrigation along the rivers and around the springs in the upstream region such as the Entarara Irrigation Scheme in Kimana and Mbirikani Group Ranches which is supported by the NIB with a huge negative impact on the availability of water for downstream pastoralists and wildlife. The Big Life initiative on community game scouts has also introduced a Water Scouts Programme who will ensure equitable sharing of shared water resources and pre-empt water related conflicts

d) Legal frameworks

Name of legal framework	PPP obligation gap issues	Stakeholder contributions
1. Environmental Management and Coordination Act (EMCA) No. 8 of 1999	a) Long term plans for supporting environmental restoration e.g. eroded areas	<ul style="list-style-type: none"> Range degradation has resulted in a 30% reduction in pasture within the ecosystem. Consequently, a range rehabilitation demonstration programme has been established in the Mbirikani area by the ACC The stakeholders indicated the need for NEMA to be more active on the ground within the ecosystem
2. EMCA (Wetlands, river banks, lake shores and sea shore management) Regulations, 2009	a) Strategies for ensuring that Wetland Resource Use Permit are obtained before use of wetlands	<ul style="list-style-type: none"> Land subdivision in the area will continue to threaten the survival of wetlands due to the lease of such areas for agriculture Kimana Integrated Wetland Management Plan (2008-2013) was expected to ensure that abstraction only used 70% of the water from streams for crop production, and leave 30% for environmental conservation and downstream users Kimana Integrated Wetland Management Plan (2008-2013) proposed the establishment of the Kimana Wetland Association which should assume a greater share of the responsibility for monitoring, control, and surveillance of the wetland. Kimana Integrated Wetland Management Plan (2008-2013) proposed the management strategy for the High Use Zone (Kimana - Isinet - Imbirikani, occupying mainly the central and upper part of the wetland basin. The area comprises the three springs and associated swamps (Tikondo, Kimana, Isinet and Kimana swamp).) should aim at relieving pressure in this area as well as encourage regeneration of the wetland vegetation. Kimana Integrated Wetland Management Plan (2008-2013). There will be no further reclamation of Kimana wetland for agricultural development.
	b) Strategies for enforcement	<ul style="list-style-type: none"> Most of the wetlands in the ecosystem are being drained for agriculture.

	of Section 42 (g) of the Act which prohibits the draining wetland	<p>Kimana wetland, for example was originally covering about 10km² but has now been reduced to less than 2km²</p> <ul style="list-style-type: none"> Entarara Irrigation Scheme has 150 farmers who were initially irrigating 100 acres before infrastructure development was done. Currently, the scheme has coverage of over 475 acres. Kimana Integrated Wetland Management Plan (2008-2013) is expected to support the conservation of the swamp. However, most of the plan has not been implemented as intended
3. Physical Planning Act, Cap 286, of 1998	a) Strategies for ensuring that developers have approved physical development plans	<ul style="list-style-type: none"> Development activities in the ecosystem are expected to conform with the Olkejuado County Integrated Development Plan (CIDP) and also be approved by the County Physical Planner
4. Water Act, Cap 372 of 2002	Strategies for ensuring that proposed water projects are approved by the persons owning or occupying at least two-thirds of the particular area concerned in the project	<ul style="list-style-type: none"> Many local people in Kimana, Namelok and Mbirikani support the Entarara and Isinet Irrigation Scheme managed by the National Irrigation Board (NIB) through the Expanded National Irrigation Programme (ENIP) as an alternative livelihood
5. Wildlife (Conservation and Management) Act Cap 376 of 1976, 1989 & Bill, 2013	a) Establishment of Wildlife Conservation Committees	The Amboseli Tsavo Group Ranch Association has established a community game scout programme with support by Big Life Foundation. The game scout programme is support wildlife conservation efforts in the area

e) Strategic plans

Name of legal framework	PPP obligation gap issues	Stakeholder contributions
1. Local area management plans (e.g. GR and conservancy management plans) e.g. Kilitome Conservancy management Plan, Kimana Integrated Wetland Management Plan	<p>a) Did the Amboseli Management Plan take into account other existing local area management plans</p> <p>b) Are new local area plans considering the aspirations of Amboseli Management Plan</p>	<ul style="list-style-type: none"> The Olgulului-Ololarashi Conservation & Development Plan (OOCDP), 2011-2018 sets out a 10-year plan for the conservation and development of the Olgulului-Ololarashi Group Ranch (OGR) in the Amboseli Ecosystem (AE). The plan is formulated in accordance with the framework used for the Amboseli Ecosystem Management Plan (2008-2018) The Kimana Integrated Wetland management Plan (2008-2013) has adopted the zoning strategy in the Amboseli Ecosystem Management Plan (2008-2018) The Kilitome Management Plan (2009-2011) was designed according to the PAPF model which was also used in the Amboseli Ecosystem Management Plan (2008-2018)
2. National Conservation and Management Strategy for Elephants in Kenya (2012-2021)	a) Strategies for ensuring reduction of the proportion of illegally killed elephants (PIKE) per annum to less than 1%	Amboseli region has experienced some of the lowest elephant loss levels especially through poaching
	b) Community engagement in the security system for protecting elephants	All the group ranches in the Amboseli Ecosystem are involved in the Amboseli Tsavo Game Scout initiative
	c) Strategies for improving the cross-border protection of elephants	AWF and IFAW are working with local communities and KWS to secure the Kitenden corridor which facilitates the movement of elephants between Amboseli ecosystem and Mount Kilimanjaro. Other initiatives include the establishment of Osupuko, Kilitome, Elerai and Kitirua conservancies. However, the annual payment for conservancy is still too low compared to the sale of land
	d) Strategies for ensuring that corridors are secured in areas of existing or potential HEC by 2021	AWF started lease payment at 500 Kenya Shillings /acre with an annual increase of 2.5%-3%. Currently, there are five community conservancies: Osupuko, Nailepeau, Kilitome, Ole Polos and Oltiyani Conservancies. This includes 350 plus individual landowners (some parcels are jointly owned) and protects approximately 20,000 acres of critical wildlife habitat. Both AWF and IFAW are supporting the securing of the Kitenden Corridor which connects Amboseli Ecosystem with Mount Kilimanjaro ecosystem. There are efforts to secure the Tsavo corridor through the establishment of strategic conservancies such as Kilitome, Nalepo and Rombo

3. National Conservation and Management Strategy for the Black Rhino and Management Guidelines for the White Rhino in Kenya (2007-2011)	a) Strategies for supporting the enlistment in the Kenya Police Reserve (KPR) of the Game Scouts to enhance powers and legal status	There are plans for the Game Scouts to be enlisted as KPRs
	b) Strategies for effective engagement with communities surrounding rhino conservation areas for improved land use practices	There are plans to declare the Chyulu region as an intensive security surveillance site
4. National Conservation and Management Strategy for Lions and Spotted Hyenas	a) Strategies for changing negative perceptions on the species	Big Life Foundation has established a predator compensation scheme for livestock killed by lions in the area. AWF and Born Free have also established very successful predator proof boma projects in Kimana and Mbirikani
5. National Climate Change Response Strategy (2009)	Supporting the construction of dams and water pans	Most of the Sub catchment Management Plans for the WRUAs in the Amboseli region have included the construction of dams and water pans

6.2.1: Other emerging stakeholder inputs according to the programme objectives

6.2.1: Critical Wildlife dispersal areas and corridors within the Amboseli Ecosystem

- The escalating problem of charcoal burning in the ecosystem could eventually affect the sustainability of wildlife dispersal areas and corridors.
- The establishment of wildlife conservancies could face a challenge in future because the returns from the lease payments are far less than what the landowners get by leasing the land to irrigation farmers. At the same time, land sale in the Kimana area has become lucrative recently and some of the land owners are “dying” to sell almost everything to those who can pay “big money”. There is need to ensure that the conservancies are more economically lucrative compared to other unsustainable opportunities such as irrigation and pastoralism.
- There is an urgent need to explore and put in place new ways for attracting tour investors to the conservancies in the area in order to increase the revenue levels for the local people. It is important to establish the role which the Kenya Wildlife Conservancies Association (KWCA) can play as an independent and legally registered community of interest that was established to provide a 'platform for landowners to directly and progressively participate in the wildlife sector in Kenya. One of the mandates of KWCA is facilitation of public-private partnership investments.

6.2.2: Management and protection of swamps and river systems in collaboration with stakeholders

- The conflicting policy and mandates in some of the line ministries, departments and lead agencies such as water resources and irrigation are complicating the goals for sustainable water resources management as envisaged in the AEMP.
- The water transferred from the ecosystem to other destinations should be shared with the local communities on the long-term in order to ease pressure on the springs and swamps especially in the period between May and November.
- ATGRA has a very important role to play in ensuring sustainable water use in the ecosystem.
- The poor enforcement of critical legal frameworks such as the Water Act (2002) is escalating the long-term water management challenge in the Amboseli area. Some government officers and politicians are involved in the illegal abstraction of water for irrigation.
- Public education and awareness as well as incentives on alternative irrigation technology such as drip irrigation are currently lacking.
- The Group Ranch management committees do not recognize WRUAs thereby reducing the social capital required for effective and participatory community management of water resources as expected

in the Water Act (2002).

- A lot of water is lost through the furrow irrigation system because of the unpaved canals.

6.2.3: Critical Wildlife dispersal areas and corridors within the Amboseli Ecosystem

- The government does not seem to give sufficient attention and support for the establishment of community conservancies and is relying more on the efforts by NGOs such as AWF, IFAW, and ACC.

6.2.3: Other inputs

- The successful implementation of the AEMP will require political support from the County Government and local leaders. If this is not done, the Amboseli Ecosystem Management Plan will remain as another major dream of saving the ecosystem and the livelihoods of the locals.

6.3: TOURISM DEVELOPMENT AND MANAGEMENT

Table 6-3 provides a summary of the contributions made by various stakeholders towards the PPP gaps in the AEMP as identified in Section 5.

Table 6- 3: Stakeholder contributions for the PPP gaps in the Tourism Development and Management Programme

a) Trans-boundary frameworks

Name of framework	PPP obligation gap issues	Stakeholder contributions
1. EAC Protocol on Environment and Natural Resources	a) Strategies for promoting Intra-regional tourism b) Code of conduct for tourists and Tour operators	It was established that tourists cross borders but the vehicle used cannot cross-over from Kenya-to-Tanzania and requires cross border transport however Tanzania-to-Kenya crossing is allowed. Consequently:- <ul style="list-style-type: none"> • In fulfilling one of EAC's strategic Interventions, a joint marketing effort that seeks to sell the E.A region as a tourist destination is desirable • The stakeholders felt that tour operators have the prerogative to inform their guests on the code of conduct • It was established that tourists usually get flyers with information on how to behave inside the park, they also get the information from the Kenya wildlife service's website • The lodges in the Amboseli region usually give instructions upon entry to the lodge on how to behave and treat the wild animals e.g. feeding them
2. EAC Climate Change Policy (EACCCP, 2011)	a) Strategies for promoting renewable energy technologies b) Strategies for enhancing energy efficiency and saving	The lodges in the Amboseli region mostly use the following sources of energy some of which are climate change sensitive: <ul style="list-style-type: none"> • Solar energy to heat water, lighting and powering the electric fences • Bulk gas in the kitchens • Char dust, bricks and coffee husks • Windmill to pump water (e.g. Tawi Lodge) • Tawi lodge uses diesel generator 2 times for 4 hours daily to charge batteries. It is also used by other lodges when solar energy is insufficient. • Firewood (e.g. Tawi lodge)
3. EAC Trans boundary Ecosystem management bill 2010	a) Regional quality and standard control b) Harmonization and registration accreditation and grading tourism.	<ul style="list-style-type: none"> • The EAC has embarked on a classification exercise for hotels, restaurants and other tourist facilities in the region.

b) National policies

1. Session paper No. 6 of 1999 on Environment and Development	a) Providing incentives for rain water harvesting	<ul style="list-style-type: none"> There is none as at the moment
2. Draft Environment Policy 2012	a) Developing a corporate environmental policy b) Strategies for adopting re-use and recycling of natural resources to combat wastage and environmental pollution. c) Strategies for Corporate Social Responsibility (CSR)	<ul style="list-style-type: none"> Some lodges in Amboseli like the Serena Safari Lodge have environmental management guidelines that ensure protection of the environment Some like Serena Safari Lodge have a naturist and all guests are taken through the importance of environmental conservation Serena Safari Lodge has established a reforestation programmes in some of the villages within the ecosystem KWS is working towards changing its roofing material to a more convenient roof to collect safe water The lodges visited during the SEA process were found to have their own boreholes and rarely harvest rainwater due to scarcity of rain Incineration of waste in the tourist facilities is done for wastes which cannot be recycled or buried Compost pits are dug for decomposing wastes Plastics and bottle wastes are usually taken back to Nairobi for recycling. It was established that some tourist establishments like Serena Safari Lodge usually undertake a follow up to ensure that proper recycling of waste is done at the end-of-chain Most waste water from kitchens and washrooms is channeled to a soak pit which goes through a natural refining process and eventually released to the swamps nearby In some cases plastic drum are used and a honey suckers comes to collect and dispose of appropriately Some tourism related organization like Big Life Foundation usually sponsors students at all level of education to a tune of about 100,000 US dollars. It is used to pay school fees at all levels from primary to postgraduate. The Big Life Foundation provides, training of Game scouts and provide for them with facilities. Big Life Foundation hires and pays 21 Government certified teachers and contributed towards Building classrooms. Lodges in the Amboseli region are offering medical and transport services to the local community. Some have free medical consultation but at times locals are asked to contribute towards fuelling the vehicle in circumstances where they have to travel far for medical services. Big Life Foundation has established a clinic with a nurse from the local community as part of their CSR
3. National Environmental Sanitation and Hygiene policy 2007	Strategies for ensuring the use of sanitation systems that are environmentally Sound	<ul style="list-style-type: none"> Lodges use-certified toiletries and laundry soaps that do not damage water quality Regular evaluation and monitoring and measurement of water quality is done to ensure that the soap are truly environmentally safe
4. Draft National Tourism Policy 2007	a) Strategies for ensuring adequate safety and security for trans boundary tourists b) Carrying capacity – Tourism Industry and sustainable environment practices c) Revenue and investment d) Development of tourism resources in sound manner.	<ul style="list-style-type: none"> KWS provides security within the Amboseli National Park; there is an arrangement to this effect although some operators opt out of requesting for security therefore endangering themselves and visitors. KWS has a 24 hour rule for tourists visiting the park from the lodges outside the park. This means that one can only use the ticket within 24 hours of purchase for the same client which has had a financial implication There is no control as yet on tourist arrivals to the Amboseli ecosystem, thereby encouraging congestion of tourists during the pick times of between 6 am and 8 am KWS proposes Amboseli National Park to become a high end destination. This will eventually control the number of visitors travelling to the park. This will be enhanced by opening up an additional conservancy in the Kitended region to decongest the park Revenue collected from the park is partly contributed towards a bursary kitty for school going children from the community.

		<ul style="list-style-type: none"> Some of the revenue collected by KWS at the ANP is also used for maintenance of road networks to ensure accessibility. Environmental impact assessment was done on recent tourism facilities. Tourism facilities inside and outside the park and in group ranches are assessed by ecotourism society for the award of eco labeling status.
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c) Legal frameworks

1. Tourism Act No. 28 of 2012	a) Strategies for supporting the establishment of the Tourism Protection Unit.	No TPU have been established as at the Amboseli ecosystem, although present in other urban tourist destinations such as Nairobi and Mombasa.
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d) National Strategic Plans

Name of framework	PPP obligation gap issues	Stakeholder contributions
1. Community Based Tourism Framework 2009	a) Providing partnership between communities and private sector.	Some partnerships exist within the Group Ranches where the local communities in order to establish a Community Conservancy have to agree on the matter and then invite investors who exploit the wildlife for tourism and collect conservation fee on behalf of the community. Currently, money is used for paying the land owners as well as supporting the community game-scouts initiative
2. National Environment Act Plan 2009 - 2013	a) Strategies for controlling fire outbreaks.	Most of the tourist facilities are installed with fire extinguishers, and fire assembly points. Some of them have staff who are trained by the Kenya Red Cross on fire management and first aid
3. National Climate Change Response Strategies (2009)	a) Strategies for supporting construction of dams and water dams. b) Strategies for learning that all new infrastructures are climate-proof over its life span.	<ul style="list-style-type: none"> Some lodges in the Amboseli Ecosystem have supported the local community in constructing dams and water pan for water harvesting House design uses local materials e.g. Makuti, wood. Stones to ensure blending in with the environment.
4. National Tourism Master Plan	a) Strategies for ensuring expansion and maintenance of security on our roads. b) Strategy for improving safety and security of tourists.	<ul style="list-style-type: none"> KWS provides grading of roads services regularly to ensure safety of the visitors and tour operators Tourism facility design is done with the aim of ensuring security of clients which include electric fence, signage, and lighting

6.3.1: Other emerging issues and stakeholder inputs

6.3.1.1: Trends in tourism investment

Figure 6-1a shows the key tourism investment concentration areas in Amboseli Ecosystem as established in the SEA with input from stakeholders. The tourism investment analysis showed that the three key tourism investment hotspots where intensive construction of tourist lodges and camp sites has occurred as follows:-

- Block 18 – Amboseli National Park** - This consists of the tourist facilities inside the Amboseli National Park with a density of 7 facilities for each 10x10km grid on the ground.
- Blocks 7 & 17 – South Eastern Border of Amboseli National Park** - This consists of the tourist facilities just next inside the National Park with a density of 3-4 facilities for each 10x10km grid on the ground.
- Block 6 - Kimana area** - This consists of the tourist facilities in the former Kimana Wildlife Sanctuary area with a density of 2 facilities for each 10x10km grid on the ground.

Figure 6-1b shows the findings of the analysis of the existing and proposed tourism establishments in terms of bed capacity through which the areas with a potential for high environmental footprint from tourism were identified as follows:-

- a) **Block 18 – Amboseli National Park** - This consists of the tourist facilities inside the Amboseli National Park with a density of 300-500 beds for each 10x10km grid on the ground.
- b) **Blocks 17 – South Eastern Border of Amboseli National Park** - This consists of the tourist facilities just next inside the National Park with a density of 50-120 beds for each 10x10km grid on the ground.
- c) **Block 6 - Kimana area** - This consists of the tourist facilities in the former Kimana Wildlife Sanctuary area with a density of 50-120 beds each 10x10km grid on the ground.
- d) **Block 56 – Merrueshi area** - This consists of the proposed Amboseli Golf Resort at Merrurieshi with a proposed density of 300 beds for each 10x10km grid on the ground based on the ESIA report.

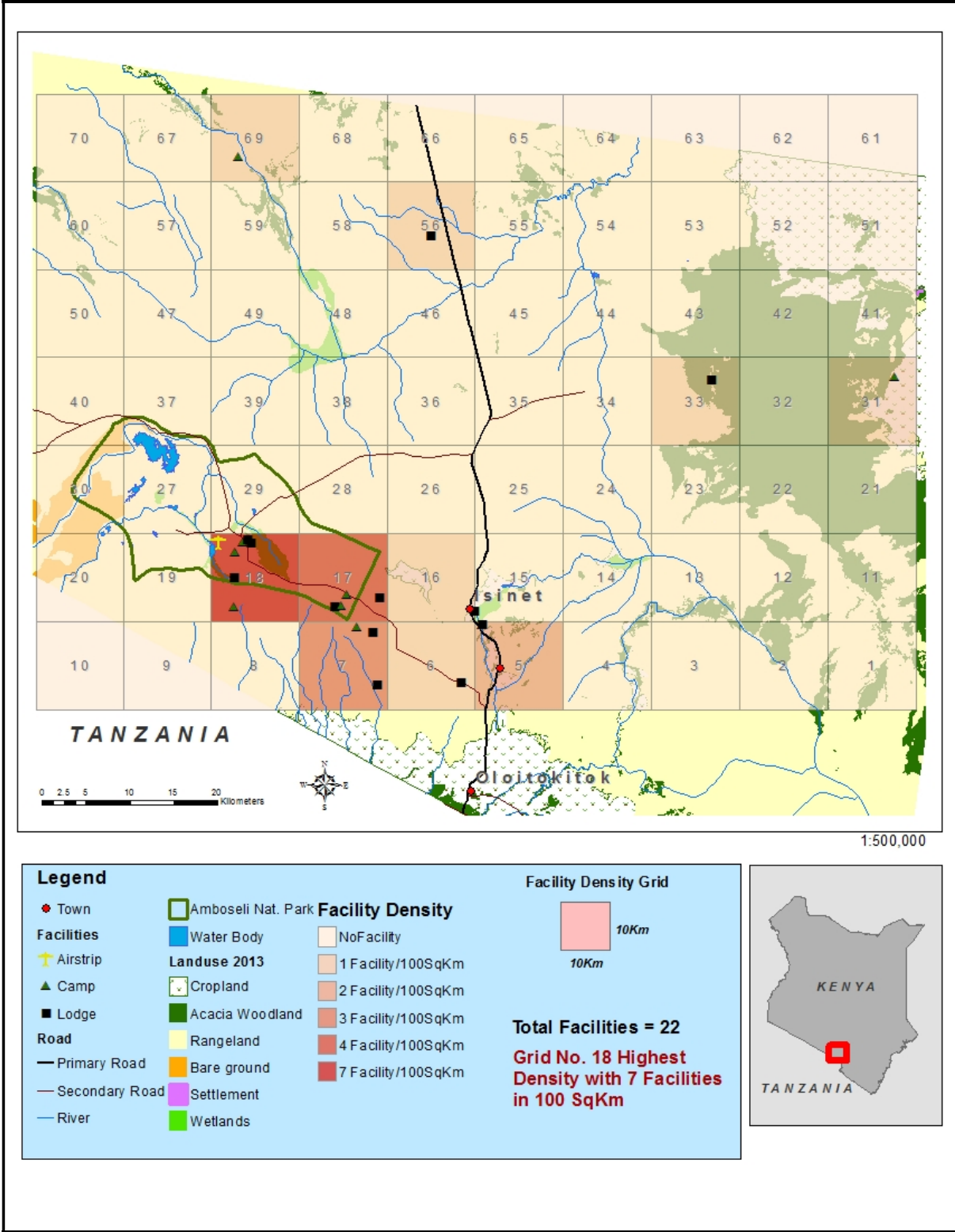
6.3.1.2: Future tourism investment in Amboseli ecosystem

The Amboseli Moratorium of 2013 was mainly raised due to the mushrooming tourism establishments in the Amboseli Region especially Blocks 7, 17 & 18 as highlighted above where the peak density for tourist establishments and bed capacity is 7 and 120-500, respectively or even higher. This kind of high density of tourism investment is considered as environmentally unsustainable for the Amboseli Region. Tourism investment in the region should not therefore be allowed to reach this level in the future. Future investments should therefore be maintained at the low-impact levels of not more than 2 tourism facilities and 120 beds per 100 km². Such investment should only be undertaken in other parts of the ecosystem outside the national park especially in the following conservancies.

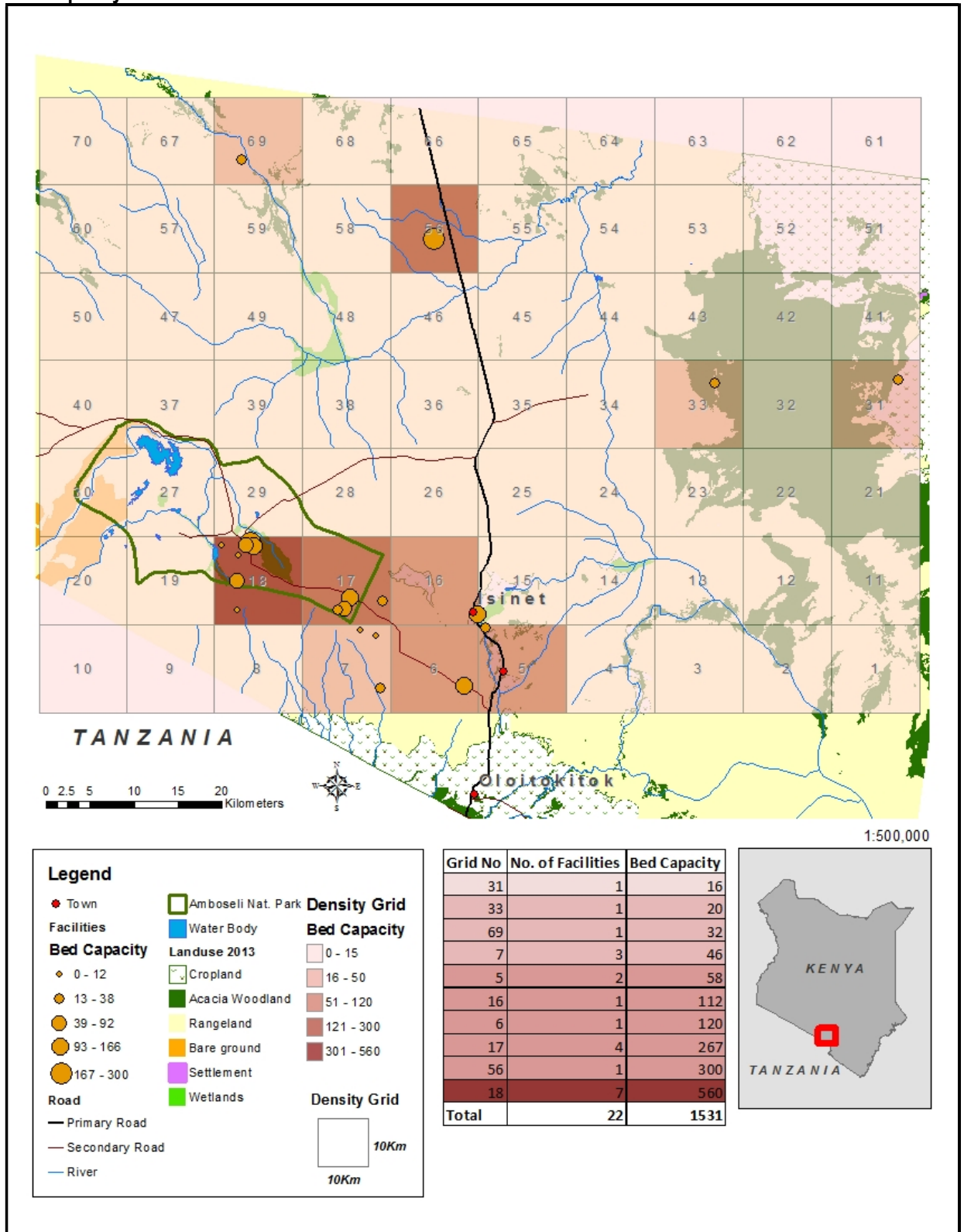
- a) Kitirua Conservancy and Kitenden Wildlife Corridor (KWC). The two are contiguous and are located in the southern sector of Olgulului/Olorarashi GR. The southern boundary is marked by the Kenya-Tanzania border while the northern boundary follows the park boundary. A key physical feature in this area is the Lemomo hill.
- b) Kilitome Conservancy in Kimana which was established in 2010 with a total area of 6,000 acres. The conservancy was established by individual land owners in the subdivided Kimana GR. The conservancy borders the Amboseli National Park to the west and Olgulului/Olorarashi GR to the north. To the south, the extent of the conservancy is marked by the Olkelunyiet Gate – Oloitokitok Road while the Namelok irrigation scheme marks the eastern extent. This area is mainly suitable for a “flying camp” Ileng’arunyani Conservancy which consists of two contiguous, but administratively separate conservation areas. One part is in Olgulului/Olorarashi GR and the other is in the neighbouring Mailua GR. The key physical features in this conservation area are the Ilengarunyoni Hills. The conservancy is being established by the two ranches.
- c) Losikutok: This is a conservancy proposed for establishment of a Rhino Sanctuary in Mbirikani GR. The key physical feature in this conservancy is Lemeipoti Hill.
- d) The Chyulu West Conservancy which is located at the western footslopes of Chyulu Hills and is bound for expansion. It traverses both Mbirikani and KuKu Group Ranch. A key physical feature in this area is the Esoit Pus swamp. Tourist facilities include Oldonyo Wuas Eco Lodge in Mbirikani GR and Camp ya Kanzi in Kuku GR, which are found to the extreme north and south of the conservancy respectively.

Figure 6- 1: A map of the key tourism investment concentration areas in Amboseli Ecosystem

a) Tourism establishments



b) Bed capacity



Motikanju Conservancy (also referred to as Kimana extension) is also a conservancy that is being established at the north-western tip of Kuku GR. The conservancy borders Kimana Wildlife Sanctuary to the west and Mbirikani GR to the north.

- e) Osupuko Conservancy which is being established in the subdivided Kimana GR. The conservancy borders Mbirikani ranch to the north while to the east the boundary is defined by the Oloitokitok-Emali road.
- f) Elerai Conservancy which is located at the foot slopes of Mt. Kilimanjaro within Entonet Location. The land is distinctively characterized by two prominent hills – Endonyo Entawua marking the northeast boundary with Kimana GR and Enoolarami, located somewhat centrally but towards the eastern boundary of the Elerai ranch.
- g) Rombo Emampuli Conservancy which is being established in Rombo GR along the Rombo-Tsavo West boundary. The seasonal Mokoine River passes through the proposed conservancy and also marks the northern border with Kuku GR.
- h) Oltiyani Conservancy which is located to the north east of Elerai Conservancy with a total of 5,280 acres of land.
- i) Eselenkei Conservation Area.

In the new conservancies but the bed capacity must be directly proportional to the area which has been set aside for conservation. The Satao-Elerai model of approximately 30 beds within an area of 5000 acres was considered in the SEA to be ideal for the Amboseli Ecosystem.

6.4: COMMUNITY PARTNERSHIP AND EDUCATION PROGRAMME

6.4.1: Stakeholder contributions for the PPP gaps in the Community Partnership and Education Programme

Table 6-4 provides a summary of the contributions made by various stakeholders towards the PPP gaps in the AEMP as identified in Section 5.

Table 6- 4: Stakeholder contributions for the PPP gaps in the Community Partnership and Education Programme

a) Trans-boundary frameworks

Name of framework	PPP obligation gap issues	Stakeholder contributions
1. EAC Protocol on Environment and Natural Resources	a) Agreements or strategies for the management of trans boundary wildlife ecosystems and protected areas	There are informal local arrangements between the people in Kenya and Tanzania in matters of livestock grazing especially during the dry season; sharing of water supplies; and game scouts sharing information
	b) Strategic incentives for sustainable use of wildlife resources	<ul style="list-style-type: none"> Local private landowners can come together and establish wildlife conservancies after land sub-division of a group ranch e.g. Tawi Conservancy Private/community conservancies are keen to attract investors so as to benefit from eco-tourism
	c) Strategies for intra-regional tourism	Establishment of a network of wildlife conservancies will spread out tourism activities within the Amboseli Ecosystem
	d) Code of conduct for tourists and tour operators for a sustainable environment	Production and dissemination of environmental education/ information through signage, advertisements, briefs and the internet

2. EAC Climate Change Policy (EACCCP) – 2011	a) Strategies for long term diversification of economies to reduce overdependence on climate-sensitive sectors such as pastoralism	Promoting eco-tourism and small scale tourism related enterprises such as establishment of wildlife conservancies, tour guiding, Maasai cultural centers and curio shops
	b) Strategies for adaptive capacities of communities and fragile ecosystems	Use of Maasai traditional pasture management and livestock, rotational grazing systems, supply of water and destocking and timely marketing of livestock
	c) Drought disaster risk reduction and community based adaptation	Use of Maasai traditional pasture management and livestock grazing systems, water supply, destocking and timely livestock marketing
	d) Cross-border natural resource based conflict resolution on water and pasture utilization	Local people cross over on either side in search of pasture especially during prolonged drought. Most of the water used on the Kenyan side originate from Mt. Kilimanjaro in Tanzania

b) International frameworks

Name of framework	PPP obligation gap issues	Stakeholder contributions
1. Seville Strategy for the management of Biosphere Reserves	Staff training a) Seeking WNBR to support local training e.g. through AfriMAB or UNESCO through KWS b) Future role of ANP as regional BR training center through AfriMAB or UNESCO	<ul style="list-style-type: none"> There is need to train game scouts and managers of conservancies ANP should remain as the core biodiversity zone for research, education, and tourism
2. Madrid Action Plan (2008-2013) – 60 actions and 34 targets	a) Any specific UN-DESD programmes in BRs with associated schools	A few school outreach programmes are being undertaken through KWS
3. United Nations Convention to Combat Desertification	b) Sustainable irrigation strategies	Use of drip irrigation technology; zoning of wetlands for grazing, crop production and wildlife conservation; establishing irrigated farms a certain distance from the river bank; and establishment of payment for watershed services

c) Policies

Name of policy	PPP obligation gap issues	Stakeholder contributions
1. The Constitution of Kenya	a) Upgrading national tree cover to at least 10% by the year 2030	Stop/reduce felling of trees for charcoal production in the Amboseli Ecosystem and planting of trees along the river banks and around natural springs
2. Sessional Paper No. 6 of 1999 on Environment and Development	b) Strategies for discouraging inappropriate conversion of ASALs into agriculture	Promote eco-tourism, encourage modern pastoralism and establish payment for environmental services (PES).
	c) Incentives for rain water harvesting	Use water tanks to store harvested water from roof tops; and construct water dams and pans
	d) Sustainable urban development planning in the ecosystem	Integrate local urban plans into regional plans
3. Draft Environment Policy (2012)	a) Payment for environmental services schemes to support watershed protection initiatives	Carry out hydrological; land use; cost-benefit; institutional framework; and legal and policy studies and establish local institution to drive support for watershed protection initiatives
	b) Rehabilitation and restoration strategies for degraded wetlands and forests	Map out degraded wetlands and forests; zone the wetlands; limited use of degraded wetlands and forests; seed pasture and plant trees
	c) Strategies for environmental corporate social responsibility	Encourage private sector in supporting community conservation and development initiatives
4. National Land Policy (2009)	a) Development of wildlife sanctuaries and conservancies	Establish agreements between landowners who dedicate their land to sanctuaries and conservancies for a long time (50 years) without land sub-division
5. National Water	a) Long term strategy for	Protect the springs; exploit underground water; harvest rain water; and

Policy (2012 Draft)	ensuring per capita water availability above the international benchmark of 1000 m ³ by 2030	construct dams and water pans
	b) Strategies for trans-boundary water resources management	Establish payment for watershed services that can support conservation efforts around Mt. Kilimanjaro
	c) Strategies for storm water management and rainwater harvesting	Construct dams and water pans, direct water draining from the roads into existing streams and rivers.
	d) Public participation in water affairs e.g. TANATHI	Support WRUAs through capacity building and finance the implementation of SCMPs
6. National Policy for the Sustainable Development of Arid and Semi-Arid Lands of Kenya (2012)	a) Strategies for halving the proportion of people without sustainable access to safe drinking water by 2015,	Protect the springs; exploit underground water; harvest rain; construct dams and pans; and manage various water uses
7. Draft National Policy on Wetlands Conservation and Management (2013)	a) Strategies for ensuring that drainage and reclamation of wetlands is not allowed without considering the wider public interest	Empower WRUAs/local community to oversee utilization of wetlands; introduce wetland use permits; restrict amount of land that can be leased out for crop production; restrict distance crops can be grown away from the river bank; establish PES;
	b) Strategies for ensuring that uncontrolled burning of wetland biomass is prohibited	Form wetland management committees and empower game scouts to help oversee wetlands protection
	c) Strategies for restoration and rehabilitation programmes for degraded wetlands	Map out degraded areas; zone the wetlands; train WRUAs and Wetland Management Committees; develop land use guidelines; introduce wetland use permits ; and WRUAs to ensure that guidelines are followed by all users of the wetlands
8. Draft Wildlife Policy (2011)	a) Strategies for establishing and building the capacity of local communities to bolster security in wildlife conservation areas	Train and equip community game scouts Establish PES scheme to fund the operations of community game scouts
	b) Strategies for transparent and inclusive mechanisms for recruitment, management and monitoring of wildlife security agents	Landowners should recommend persons to be recruited as game scouts; and KWS and Kenya Police should be involved in the actual recruitment and training of game scouts
	c) Strategies for effective mechanism for sharing benefits including revenue with communities living adjacent to PAs.	Establish PES scheme
	d) Wildlife disaster preparedness, response and rescue strategy	Train and equip community game scouts
	e) Strategies for recovery plans for the conservation and survival of endangered and threatened species	Involve community game scouts; establish PES; and increase the consolation fund
	f) Long term plans for erecting and maintaining game barriers and other approved deterrent measures to minimize HWCs	Undertake cost benefit analysis of the game barriers in addition to environmental impact assessment before they are erected and carry out an impact evaluation of the established barriers
	g) Long term plans for ensuring clear and easily recognizable boundary markers for the ANP	Fix clear survey beacons round the ANP
	h) Strategies for public and private sector involvement in	KWS should appoint members of the public and private sector to the proposed ANP Management Committee as required

	the management of ANP	
	i) Strategies for preventing the spread of invasive alien species	Awareness creation and education on the environmental and ecological dangers of invasive species
9. National Forest Policy (2005)	a) Strategies for trans-boundary collaboration to ensure sustainable management of cross-border forests	Form or energize community forest associations (CFAs); and Kenya and Tanzania forest authorities should exchange information on illegal cross-border timber trade
	b) Collaborating with other stakeholders in conservation and management of forests	Form community forest associations (CFAs) where they don't exist; and capacity build CFAs where they already exist
	c) Long term strategies for rehabilitation of forests	Form and capacity build CFAs in the rehabilitation of forests on the hill tops, along the rivers and around natural springs
10. Draft National Policy on Peace Building and Conflict Management (2006)	a) Capacity for conflict early warning and early response – e.g. pastoralist and irrigation farmers	Capacity build local institutions such as WRUAs, CFAs; conservancies; the proposed pastoral livestock marketing associations, ATRGRA; AET;

d) Legal frameworks

Name of legal framework	PPP obligation gap issues	Stakeholder contributions
1. Environmental Management and Coordination Act (EMCA) No. 8 of 1999	a) Long term plans for supporting environmental restoration e.g. eroded areas	Formalize indigenous Maasai knowledge in managing the land; and its critical resources like water, pasture and woody plants; and encourage the practice of modern pastoralism
2. EMCA (Wetlands, river banks, lake shores and sea shore management) Regulations, 2009	a) Strategies for ensuring that Wetland Resource Use Permit are obtained before use of wetlands	Issuance of permits should be undertaken by a committee after zonation of the wetlands.
	b) Strategies for enforcement of Section 42 (g) of the Act which prohibits the draining wetland	Zone the wetlands or develop wetland management plans, establish wetland management committees, and capacity build WRUAs
3. Physical Planning Act, Cap 286, of 1998	a) Strategies for ensuring that developers have approved physical development plans	Integration monitoring should be undertaken on regular basis
4. Water Act, Cap 372 of 2002	a) Strategies for ensuring that proposed water projects are approved by the persons owning or occupying at least two-thirds of the particular area concerned in the project	Capacity build WRUAs; create awareness; and educate the local community
5. Forest Act No. 7, of 2005	a) Strategies for ensuring appropriate precautions to prevent fires	Encourage land owners to have fire breaks on their land
	b) Strategies for promoting PES initiatives for carbon sequestration and other environmental services	Undertake forest cover mapping; carry out land use; cost-benefit analysis; institutional framework; legal and studies and establish the local institution to spearhead PES initiatives for carbon sequestration
6. Wildlife (Conservation and Management) Act Cap 376 of 1976, 1989 & Bill, 2013	a) Establishment of Wildlife Conservation Committees	Create wildlife conservation awareness; mobilize the communities; educate the communities on the benefits of wildlife conservation; and register the wildlife conservation committees;
	b) Appointment of Honorary wardens especially among the local communities	Allow landowners, conservancies and eco-tourism enterprises participate in choosing candidates for appointment of honorary wardens by KWS
7. Tourism Act, No. 28 of 2012	a) Supporting the establishment of the Tourism Protection Unit	Train and equip community game scouts

e) Strategic plans

Name of legal framework	PPP obligation gap issues	Stakeholder contributions
1. Local area management plans (e.g. GR and conservancy management plans) e.g. Kilitome Conservancy management Plan, Kimana Integrated Wetland Management Plan	a) Did the Amboseli Management Plan take into account other existing local area management plans b) Are new local area plans considering the aspirations of Amboseli Management Plan	No Somehow as in the case of the Olgulului-Ololarashi Conservation & Development Plan (OOCDP), 2011-2018
2. National Environment Action Plan (2009-2013)	a) Strategies for ensuring sustainable sand harvesting b) Strategies for preventing and controlling of fire outbreaks	Capacity build group ranch management committees; introduce permits for harvesting sand; ranch management committees to ensure that those who harvest sand contribute to rehabilitation of degraded areas resulting from their activities Create awareness and educate local people; encourage land owners to have fire breaks
3. National Conservation and Management Strategy for Elephants in Kenya (2012-2021)	a) Strategies for ensuring reduction of the proportion of illegally killed elephants (PIKE) per annum to less than 1% b) Community engagement in the security system for protecting elephants c) Strategies for improving the cross-border protection of elephants d) Strategies for ensuring that corridors are secured in areas of existing or potential HEC by 2021 e) Strategies for ensuring sustainable compensation, consolation and insurance against losses from elephant damage	Create awareness and educate local people; train and equip game scouts; construct barriers after cost benefit analysis and EIA have been undertaken Create awareness and educate local people; and train and equip game scouts Create awareness and educate local people; train and equip game scouts; monitor elephant cross-border movements; carry out Kenya-Tanzania joint anti-poaching activities; and harmonize and Kenya and Tanzania wildlife laws and policies Encourage wildlife conservation with compatible land uses such as livestock production and eco-tourism Establish PES scheme
4. National Conservation and Management Strategy for the Black Rhino and Management Guidelines for the White Rhino in Kenya (2007-2011)	a) Strategies for supporting the enlistment in the Kenya Police Reserve (KPR) of the Game Scouts to enhance powers and legal status b) Strategies for effective engagement with communities surrounding rhino conservation areas for improved land use practices	Vet the community scouts; train the vetted scouts more; equip them; appoint them as KPR; support PES scheme that will fund their salaries and operations. Create awareness and educate local people; and train and equip game scouts
5. National Conservation and Management Strategy for Lions and Spotted Hyenas	a) Strategies for changing negative perceptions on the species b) Strategies for enhancing conservation education in learning institutions including schools c) Developing area-specific conservation management plans for Lions and spotted hyenas	Create more conservation awareness and educate the local people and general public about the species; and equitably share benefits from wildlife conservation Incorporate conservation education in the curriculum of learning institutions/ schools; develop and run conservation short courses for teachers; encourage conservation related competitions and reward or honour outstanding institutions and individuals Establish more wildlife conservancies and corridors but ensure they are functional
6. Nairobi Metro 2030	a) Supporting the County Government to increase forest cover within its area of jurisdiction to 30% by 2030	Support CFCs; WRUAs ; Group ranch management committees and conservancies

	b) Supporting gazettement and protection by County Government of ecologically fragile and conservation areas in the NMR as part of the effort aimed at reducing the region's ecological footprint	Map out fragile areas; pass by-laws to rehabilitate the mapped areas; develop plans to rehabilitate the mapped areas; and fund the rehabilitation work.
7. National Climate Change Response Strategy (2009)	a) Supporting the construction of dams and water pans	Fund the de-siltation of existing dams and pans and develop more where they don't exist.
	b) Supporting developing special livestock insurance schemes	Form pastoralist livestock marketing association

6.4.2: Other emerging stakeholder inputs according to the programme objectives

6.4.2.1: Opening up and maintain wildlife dispersal areas around Amboseli NP and critical linkages to adjacent Tsavo and Kilimanjaro national parks

- Imbirikani, Kuku and Rombo group ranches are still wildlife dispersal areas and link Amboseli National Park with Tsavo West National Park. Olugulului Group Ranch and Elerai Conservancy (which is privately owned) are also dispersal areas and link up Amboseli with Mt. Kilimanjaro National Park. The Ministry of Agriculture is targeting 95,000 hectares to be brought under crop cultivation in the ecosystem especially around the swamps and along the rivers. Currently, Loitokitok sub-county has 40,000 hectares of arable land of which 2,600 hectares is irrigated land comprising of 15 small scale schemes. Arable agriculture is supporting 15,000 households in the Sub-County. This will have far-reaching implications on wildlife conservation and tourism in the Amboseli area.
- With the exception of Olugulului Ranch, the other group ranches (i.e., former Kimana Group Ranch, Imbirikani, Kuku, Rombo and Eselengei) that form wildlife dispersal areas for Amboseli National Park and critical links with Tsavo and Kilimanjaro National parks have either been sub-divided or are planning to sub-divide their land. Reconsolidation of individual land holdings after subdivision into viable conservation areas, especially where some land owners who prefer other land uses other than wildlife conservation and eco-tourism is not an easy task. For instance, there are private landowners in the midst of Tawi and Kimana conservancies who have not yet agreed to be part of those conservancies.
- Although Kimana Group Ranch exists in name legally, for practical purposes it ceased to exist after its land was sub-divided. The only aspect of the ranch that is still remaining is the Kimana Wildlife Sanctuary land. Therefore, the real land owners in Kimana area are the individuals holding titles and those having shares in the conservancy land. These are the *bonafide* people who should be convinced to form wildlife areas to safeguard wildlife corridors and habitats rather than target the defunct group ranch. The same people should constitute membership for landowners association in the Kimana area.

6.4.2.2: Reducing to minimum levels human-wildlife conflicts in community areas

- The Kimana and Namelok wildlife deterrent fences are in poor state for lack of maintenance. The conflict resolution committees which were set up to maintain the fences collapsed long ago. Although plans are underway to rehabilitate the fences, to reconstitute conflict resolution committees, and put up a new fence all together at Namelok, it is not clear that this time round human wildlife conflict will be reduced. It is particularly so when the people interested in the fence are lease farmers coming from the outside Amboseli Ecosystem rather than the local Maasai landowners.
- The proposed Maasai Moran Conservation Network to reduce elephant spearing and lion killing is acceptable to stakeholders. It should be implemented, but the habit of Morans spearing lions is heavily imbedded in the Maasai culture and that of spearing elephants in the local conservation politics of the day and emerging commercial poaching. More work is needed to change these driving forces in addition to education of the Morans.

- The ATGRA has a modest consolation scheme which is used to compensate pastoralists for loss of livestock resulting from animal predation. Most of the funding comes from the group ranches contributions, NGOs and donors. But sustaining this scheme is not guaranteed especially when group ranches sub-divide land and individualize landownership and NGO and donor funding dry up.
- The idea of training pastoralists to construct predator proof bomas has taken off in the ecosystem on experimental basis. Conservation NGOs are trying out various technologies to that would keep off predators from attacking livestock. They include use of solar powered lights at night and wire fencing the kraals. The challenge, however, is the efficiency, effectiveness and sustainability of the technology being tried out.

6.4.2.3: Diversification of community benefits from natural resource use and ensuring equity in benefit sharing

- Benefit sharing in the group ranches has been a contentious issue. It is because of the inequity in benefit sharing that most members of the group ranch agitate for land-subdivision. Some group ranch officials have been accused of amassing wealth through fraudulent ways while in office. As a result, there is very little that remains to be shared amongst the membership.
- Community management and leadership of nature based enterprises in the Amboseli Ecosystem are still in a nascent stage. Management and leadership of nature based enterprises need to be strengthened. For instance, the new conservancies in Kimana area are being sustained by landowners' willingness, patience and hope for the future rather than by commercial profitability presently. Therefore, efforts should be made to capitalize on the optimism of management and leadership of nature based enterprises and of their off-springs before it wears off.
- The Amboseli Tsavo Game Scouts Association (ATGSA) has almost 300 game scouts supported mainly by NGOs such as Big Life Foundation, African Wildlife Foundation and group ranches' contributions. The contribution of community game scouts is greatly appreciated by many stakeholders in the ecosystem. However, more innovative ways should be sought to sustain the activities of the association and the capacities of game scouts even when donor funding is not forthcoming.
- Outside Amboseli National Park, Maasai cultural centres such as at Enkong'u Narok and Olkelunyet are the only community enterprises show-casing Maasai culture to the tourists. Although the centres are owned and managed by the Maasai, they operate under the mercy of tour guides. Tour guides charge them commissions of US \$ 20 per tourist and Ksh 500 per bus to bring tourists to the centres irrespective of whether the tourists buy artefacts from them. Efforts to change this way of doing business have not been successful. Tour guides blackmail the cultural centres: they will by-pass centres that are deemed to be against business exploitation and deny them tourists. Alternatively, they will take tourists to cultural and curio shops that agree to give them the commissions they have set. Because of the competition between cultural centres on one hand and between the cultural centres and privately owned curio shops inside and outside Amboseli National Park, on the other hand, the business of operating Maasai cultural centres is becoming less profitable. As it is always the case for businesses that operate in a competitive market, it is only the most efficient that survive and make profits. It is therefore foreseeable that exploitation of cultural centres by tour guides will continue and many inefficient cultural centres may close up.
- Until early 2002, bird shooting was practiced in Imbirikani Group Ranch. KWS used to license bird shooters and collect revenue from bird shooting for the ranch. Every year the ranch would get money from KWS to fund projects. If the activity is revived and spread out in the ecosystem, it would contribute to the development of the ranches in the ecosystem.

6.4.2.4: Improving livestock productivity to enhance community livelihoods

- Establishment of 'grass banks' in the group ranches and developing plans to secure dry season grazing areas have always been undertaken traditionally by the Maasai. They have long held traditions of preserving pasture for livestock and, for the calves and sick animals during long dry spells. The only challenge is that the grass banks are becoming smaller and degraded as a result of increase in human population and livestock numbers. They are also threatened by inconsistencies in rainfall expected during the long and short rains. The other challenge is mapping out the grass banks and documenting the traditional grazing patterns within the ranches and the ecosystem.
- There are a number of WRUAs in the ecosystem set up by WRMA. One of their functions is to protect critical water points including springs and wetlands from degradation. The main problems, however, are that all of WRUAs are young and need strengthening before they can be effective.
- There are several water dams and pans constructed for livestock use in the ecosystem. But most of them need de-silting. Until the Department of Livestock Development gets funding from the Government, many dams and pans will not store rain water any more. The ACC funded the acquisition of 24 quality Borana bulls from Laikipia last year for crossing breeding with the indigenous Maasai stock in the ecosystem. The Amboseli Tsavo Group Ranch Association decided that each group ranch would receive a certain number of bulls and, that group officials would take custody of the bulls. It was also agreed that the Borana bulls would serve group ranch members' stock free of charge. So far the pastoralists are happy with crossbreeds because they produce more milk and fetch good price in the market than the indigenous stock. Also, the Galla goats were taken to Lenkism for purposes of cross breeding and improved dairy goats have been distributed and are benefiting 50 households in the ecosystem.
- The Sub-County Livestock Office welcomes the idea that para vets should be trained in animal health care. But for unexplained reasons, the Veterinary Department does not support this idea. There is an instance where local people were trained but the department 'refused' to issue certificates to them.
- Although there are 32 community cattle dips in Loitokitok Sub-County none is functional today. Management committees formed to manage the dips are also non-existent. Most pastoralists are not interested in the cattle dips because they believe the facility spreads cattle diseases and using them takes a lot of their time on a dipping day when there are many herds of livestock to be dipped. Instead, they have resorted to using hand sprays to spray their livestock. Pastoralists claim that this technology does not spread diseases, is cleaner and takes a short time to spray many animals. On the other hand, the Department of Livestock Development is critical of the way pastoralists are spraying livestock because they don't do it right. The sprays do not reach all parts of the animal, are wasted, chemicals are not correctly mixed before spraying and are environmentally harmful.
- The Veterinary Department carries out three types of livestock vaccination campaigns: ring fencing whenever livestock disease is evident in particular, national outbreaks when disease strikes most parts of the country and preventive campaigns on demand of livestock owners. Livestock disease hot spots in the ecosystem are Chyulu Hills and Ngataek.
- The ecosystem does not have livestock disease control zone as well as a livestock holding ground, though there used to be one on Kuku Group Ranch. The Department of Livestock Development has proposed establishment of a livestock disease free zone at Elangata Waus (outside the ecosystem) and re-establish a livestock holding ground on Kuku Group Ranch.

6.4.2.5: Focussing livestock production and marketing on specific local and international markets

- The Department of Livestock Development is planning to provide water, latrines and holding yards at local livestock markets. The AE plan is also in support of this initiative, and already a livestock holding ground has been set aside for at the Kimana livestock market.
- Currently, pastoralists are exploited by middlemen when they sell their livestock. This is due to the fact that there are no livestock marketing guidelines and local livestock associations to help prevent exploitation of pastoralists by middlemen. The level of exploitation of pastoralists is highest when most them have to sell their livestock in order to pay school fees for their children when schools open.
- There are no linkages between local and international livestock markets. The Kenya Meat Commission which is supposed to be linking local and international markets is unable to do so. A slaughter house which is supposed to help in buying livestock from pastoralists and adding value to livestock products has been constructed at Imbirikani. The facility is yet to be operational.

6.4.2.6: Enhancing awareness about the park and ecosystem at the local and national levels

- Kenya Wildlife Service has not yet developed up to date conservation education materials focusing on Amboseli Ecosystem. It has a conservation education outreach programme which is mainly targeting the primary schools adjacent to the park. The level of awareness created among the public on the importance of the Amboseli Ecosystem through mass media, internet and organizing and participating in conservation awareness events, is low.

6.4.3: Stakeholder concerns according to the programme objectives

6.4.3.1: Opening up and maintaining wildlife dispersal areas around Amboseli National Park and critical linkages to adjacent Tsavo and Kilimanjaro national parks

- Changing land uses such as irrigated agriculture and unplanned settlements and land degradation resulting from overstocking and overgrazing in the ecosystem are fragmenting the wildlife dispersal areas and delinking Amboseli National Park from Tsavo and Kilimanjaro national parks. As a result, the dispersal areas will cease to be a continuous land mass connecting Amboseli National Park and Tsavo and Kilimanjaro parks. Fragmented and scattered dispersal land and wildlife habitats in the ecosystem are not ideal for use by big mammals but will result into escalation of human-wildlife conflict in the ecosystem and general poor population performance of the wildlife especially those that are sensitive to changes in their home range.
- Intensive use of the wildlife dispersal areas for livestock production will displace wildlife especially carnivores. While pastoralists have a higher level tolerance for herbivores, it is not the same for carnivores. This is because carnivores like cats kill their livestock. Moreover, pastoralists value livestock more than the carnivores.
- Although local conservancy/ group ranch management plans have been developed, the level of implementation is still very low. If many activities are planned and not implemented, the local community loses confidence and becomes sceptical about practicability of such plans. The message passed then is that, group ranch plans cannot be implemented always.
- Some individual land owners in Kimana are not interested in having their parcels of land consolidated into a viable conservation area. While some have sold their titled land, there are some who have even sold to other people their shares of land in Kimana Conservancy. The new landowners may not necessarily use the land for livestock production or wildlife conservation.

6.4.3.2: Reducing human-wildlife conflict in community areas to minimum level

- Erecting wildlife barriers is meant to reduce human-wildlife conflicts. Deeper analysis of the impact of the fences reveals that these barriers have been protecting leaseholder farmers from wildlife damage rather than the pastoralists who host wildlife. As a result, more farmers have been migrating in Amboseli Ecosystem to open up wetlands and more recently even land far from water source for crop production. Crop production is not only an incompatible land use with wildlife conservation, but escalates human-wildlife conflict in the ecosystem and accelerates wildlife displacement, habitat loss and persecution but degrades the environment.
- Due to funding limitations, conflict consolation scheme is confined to a few group ranches. Moreover, its sustainability appears to be doubtful.
- Although predator proof bomas technologies have been tried on experimental basis, their success and sustainability by the local community have not been determined to warrant wide spread use of the technologies within the ecosystem.

6.4.3.3: Diversifying community benefits from natural resource use and ensure equity in benefit sharing

- The ordinary members of the group ranches welcome the idea of developing and implementing a benefit sharing system from natural resource use and ensuring equity in benefit sharing. They are, however, concerned with how the idea will be implemented without the rich and powerful in the group ranches sabotaging it. The rich and the powerful have all along been benefiting from the group resources either by design or fraudulently more than the ordinary members. Ensuring equity in benefit sharing would mean their shares are reduced. This is an idea they are likely to agree to albeit reluctantly in the initial stages, but sabotage it later because it will reduce their benefits.
- Improving management and leadership of nature based enterprises is generally an acceptable idea to those engaged in such businesses. The main concern raised was how it was going to be carried out this time. Previous experiences of training of Kimana conservancy management and leadership did not help in arresting land subdivision of the group and the deterioration of the conservancy.
- There are efforts by NGOs, KWS and group ranches to strengthen the Amboseli/Tsavo Game Scouts Association (ATGSA) to increase tourism benefits within the community. What is not clear is whether these efforts are sustainable. The questions raised were: what would happen if the partners were unable to pay the salaries of game scouts? What would happen if donors who support NGOs got fatigued or changed their agenda or even left Amboseli Ecosystem altogether.
- Establishment of Maasai cultural museum is proposed in the AEMP. Owners of the cultural centres were concerned about the survival of their centres once such a facility was put in place. They fear that the museum may take away business from them. Tourists may prefer visiting the museum to visiting their cultural centres.
- It is proposed that managers of cultural centres would be trained. The managers welcome this proposal. They, however, recommend that the type training that addresses their current problems like that which enables them to work closely together to overcome the exploitation by tour guides.
- The AEP proposes that management plans for identified Maasai cultural sites will be developed. The proposal was supported by the stakeholders. They however, expressed some scepticism about plan implementation. Like most local plans in the ecosystem, very little or nothing is implemented unless donors intervene. The other concern was who would be the owners of the museum.

- The proposal to assess bird shooting potential in the AE did not raise any concerns.

6.4.3.4: Improving livestock productivity to enhance community livelihoods

- Establishment of 'grass banks' in the group ranches is not a new concept to the pastoralists. They have always had 'grass banks' at family and ranch levels. The only concern raised by stakeholders is how such grass banks would be sustained when population and livestock numbers are increasing and, when individualization of land is occurring.
- Development of traditional grazing plans to secure dry season grazing area is also not a new concept to the pastoralists. They have practised rotational grazing "Olopololi" for a long time and have unwritten rules and code of conduct governing the practice though not written down as plans. Stakeholders welcomed the proposed plans because they would be formalizing their traditional plans and practices. The concerns, however, are that many of the pastoralists are becoming sedentary and individualization of land may undermine the proposed plan.
- The WRUAs and group ranches are engaged in protecting water springs from degradation. The main concern though subtly raised by the WRUAs is the weakening of traditional rules that effectively conserved the springs by modern water laws and policies. While the former are despised and are no longer applicable the latter don't seem to provide a sustainable solution.
- The AEP intends to initiate rainwater harvesting technology to improve livestock pasture. The concern raised is that many technologies have been tried out in the ecosystem but the adoption levels of the technologies by the pastoralists are very low. The only people who have adopted water harvesting techniques are those who practice crop agriculture.
- Establishment of Water Resource Users Associations (WRUAs) to enhance management of water sources has been undertaken in the ecosystem. The concern raised by the WRUAs is that they get frustrated by the conflicts between government departments regarding water use in the wetlands. The WRUAs observed that in Loitokitok, the Department of Irrigation and WRMA seem to be conflicting in their operations. While the Ministry of Agriculture is encouraging irrigated agriculture in the wetlands, Department of Livestock Development is encouraging pastoralists to keep the wetlands as dry season grazing areas and KWS is encouraging wildlife conservation.
- The AEP proposes to provide quality bulls, rams and bucks for crossbreeding with the traditional livestock. So far 24 Borana bulls have been provided to ATGRA by ACC. The concern raised by the pastoralists is that, although the crossbreeds have better weight, provide more milk and fetch a better price in the market than the indigenous Maasai stock, they require a lot of water, don't walk long distances, and are difficult to manage during a prolonged drought.
- The Department of Livestock Development revealed that the plan to train local para vets in animal health care techniques is not appealing to the Veterinary Department. Local people who had been trained some time have to date not received their certificates. The questions then were: why train local people and not certify them? Why train people who cannot practice legally?
- The Department of Livestock Development confirmed that an assessment of cattle dip requirements in the ecosystem is necessary. However, the pastoralists do not support the revival of community cattle dips. They allege that community livestock dips spread diseases, are usually dirty, sometimes lacked water and acaricides. Queuing up to dip livestock usually took a lot of their time. Pastoralists now support private dips and open spraying of animals in their homes.

- The Department of Livestock Development indicated that it carries out livestock vaccination campaigns. The pastoralists however, alleged that Vet vaccination campaigns are few and far apart. In addition, government livestock extension services are poor or non-existent. The pastoralists feel they have been neglected by the Vet Department. They have been left on their own to vaccinating and treating their livestock. The concern is the way they do it is not proper. They don't do it right.
- Establishment of a livestock Disease Free Zone (DFZ) in the Ecosystem is proposed in the AEP. The Department of Livestock Development indicated that this proposal would need to be approved at a national level before it can be implemented. In addition, land would have to be found before the Zone can be established.
- Re-establishment of gazetted livestock holding grounds in Loitokitok means reclaiming land from private people who now own it. It may not be easy to do so unless duly compensated.

6.4.3.5: Focusing livestock production and marketing on specific local and international Markets

- Infrastructure in the livestock markets is either poor or non-existent. Stakeholders welcome the plan to support provision of water, latrines, yards, etc., in the markets. The concerns were however, about poor management of these facilities.
- It is planned that livestock marketing guidelines to prevent exploitation of pastoralists by middlemen would be developed. The concern was that for the guidelines to be useful they would have to be disseminated to the pastoralists. This is not explicitly indicated.
- Stakeholders reacted differently to the plan to establish a local livestock marketing association. The concern was how such an institution would assist pastoralists and, how it would deal with the middlemen already controlling livestock trade in the ecosystem. It was observed that middlemen are likely to resist any efforts that would appear to take away or reduce their role in the livestock trade.
- The AE plan is proposing to create linkages with local and international livestock markets. It was observed that national experience of doing so using Kenya Meat Commission has not been successful. Pastoralists do not talk well of KMC. Based on that experience, their concern is the nature of local and international linkages that would be created this time around.
- A slaughter house has been constructed at Imbirikani Group Ranch. The idea is to provide a ready market to pastoralist livestock in the ecosystem and to add value to livestock products. The concerns raised by pastoralists, however, were about ownership and management of the slaughterhouse. What would be their stake in the slaughter house? Is it likely to offer better livestock prices to them more than the livestock traders and middlemen?

6.4.3.6: Enhancing awareness about the park and ecosystem at the local and national level enhanced

- The AEMP plan intends to develop conservation education materials focusing on AE resources. The main concern was the use of English and Kiswahili languages in such materials which marginalize the local community.
- Design a conservation education outreach programme based on the local community's social stratification. The emphasis has been on talks in a few schools and training of a few adults around Amboseli National Park. These programmes are few and are not widespread in the ecosystem.

- Create awareness among the public on the importance of the AE through the mass media, Internet, and organizing and participating in conservation awareness events. The concern is that there is little being done in these areas.

6.4.5: Other stakeholder inputs

6.4.5.1: Proposed Construction of Namanga-Meshanani-Amboseli Tarmac Road (C103)

The ESIA report for the above project confirms that the AEMP was considered during the assessment process (Section 2.12.2). The report in Section 8.3.2.6 confirms that the proposed road project will impact significantly on the movement of wildlife within the area. The report recommends that the wildlife corridors which will be affected have already been mapped by the Department of Resource Surveys and Remote Sensing (DRSS) in conjunction with KWS in order to be left to enable the wildlife move freely as they have traditionally done. However, the ESMP in the ESIA report did not consider this matter at all. The proposed road if constructed as designed and described in the ESIA report will have serious environmental implications on important wildlife corridors for the Amboseli National Park and also disturb a number of important community wildlife conservancies to the north of the national park therefore affecting the efforts to sustain environmental linkages with the group ranches. The likely negative impacts on existing wildlife corridors is in contradiction of the goal of Kenya Vision 2030 to “secure *wildlife corridors* and migratory routes”.

Most stakeholders therefore recommended that a Special Task Force should be established to review the ESIA report for the Namanga-Meshanani-Amboseli Road with the aim of:- a) considering the option of modifying the route so that the road connects to the Emali-Loitokitok Road at Makutano as shown in Figure 6-2, and b) recommending suitable options for ensuring that the project adheres to the principles of eco-road construction especially with regard to safe wildlife movements. The aim is to ensure a masterpiece of the convergence between technology and nature where the people using the road have their way and the animals and livestock also have their right of way.

6.4.5.2: The proposed Amboseli City

The proposal in the Nairobi Metropolitan 2030 Strategy to establish a new town on the edge of Amboseli National Park called Amboseli New Town is environmentally unsustainable and should be reviewed or preferably shelved altogether because it has the following potential environmental drawbacks:- a) intensifying the water problem in the ecosystem, b) destroying a critical dry season livestock grazing area for the Olgulului-Ololarashi Group Ranch (OGR), c) destroying a critical dry season wildlife dispersal area for the Amboseli National Park, d) escalating the problem of human-wildlife conflicts, e) violating the key environmental goal of Vision 2030 of “Securing the Wildlife Corridors and Migratory Routes”, and f) violating the status of Amboseli as an international Biosphere Reserve under the UNESCO Man and Biosphere program (MAB) which makes it a globally significant. Previously, other Sites of International Importance, such as Lake Naivasha which is a Ramsar Site and Mount Kenya which is a Biosphere Reserve and World Heritage Site have almost been blacklisted due to unsustainable development. This is not a good thing for Kenya in the eyes of the international community.

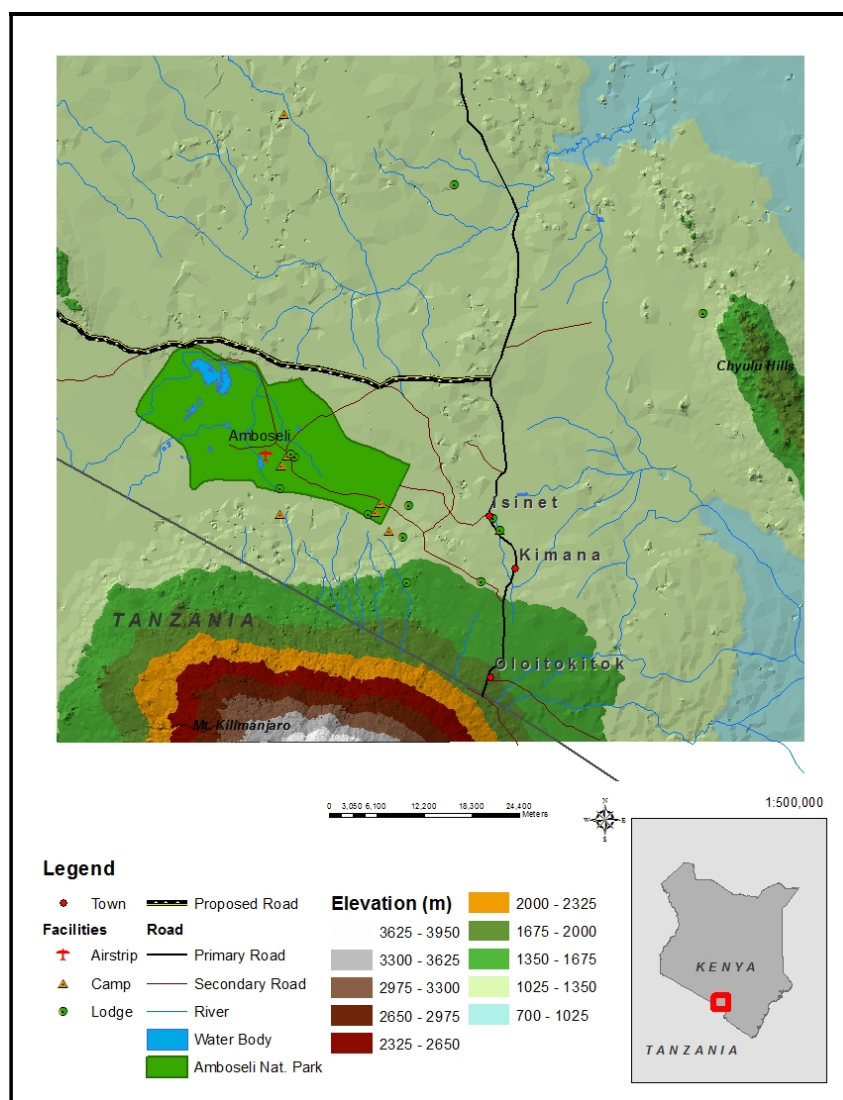


Figure 6- 2: Recommended routing for the proposed Namanga-Meshanani-Amboseli Road

6.5: SECURITY PROGRAMME

6.5.1: Stakeholder contributions for the PPP gaps in the Security Programme

Table 6-5 provides a summary of the contributions made by various stakeholders towards the PPP gaps in the AEMP as identified in Section 5.

Table 6- 5: Stakeholder contributions for the PPP gaps in the Security Programme

a) Policies

Name of policy	PPP obligation gap issues	Stakeholder Contributions
1. National Land Policy (2009)	Strategies for supporting community land management and dispute resolution	<ul style="list-style-type: none"> This is the reason for which AET was established but there has been challenges where group ranch leaders have been secretly working with the government officials to support irrigation activities for their own benefit and in contradiction to the AET and the AEMP. The reason is because the senior government officers in the ecosystem are involved in commercial irrigation activities. Similarly issue on use of water both from the wetlands, rivers and from the Nolturesh pipeline have become difficult to resolve because the district administration has taken sides without due consideration of the AEMP The solution is to set up and an Amboseli Ecosystem security and conflict resolution board involving AET representatives, district heads

		of departments concerned with security and county administration, agriculture, water, county government and representatives from the Amboseli Park Management Committee
2. National Policy for the Sustainable Development of Arid and Semi-Arid Lands of Kenya (2012)	Strategies for applying conflict sensitive approaches to development	<ul style="list-style-type: none"> AET should hold quarterly stakeholders meetings as part of the management actions in the AEMP, to receive views and proposals from stakeholders on how best to harmonize development approaches and reduce conflicts
3. National Forest Policy (2005)	Strategies for regulating production and marketing of charcoal	<ul style="list-style-type: none"> Use of game scouts to patrol the Group ranches and have been arresting charcoal burners and confiscating the charcoal before and handing them over to prosecution security agents. We found confiscated charcoal at Rombo Game scout camp There is need for efforts towards harmonizing conflicts between KFS and KWS over charcoal business
4. Draft National Policy on Peace Building and Conflict Management (2006)	Strategies for strengthening the capacity to maintain effective systems for conflict early warning and early response	<ul style="list-style-type: none"> There are no such strategies and for building of this capacity, they supported the establishment of the Biosphere training facility at the KWS plots at Loitokitok

b) Strategic plans

Strategic plan	PPP obligation gap issues	Stakeholder Contributions
1. Vision 2030	f) Strategy for supporting security in protected areas	<ul style="list-style-type: none"> Improvement of radio communication in the park and conservancies through ranger and game scout network Improvement of patrol roads both inside the park and on migratory corridors as in the Kitenden corridor
2. National Conservation and Management Strategy for Elephants in Kenya (2012-2021)	4.2) Strategy for ensuring that protection from elephant damage of crops and property on the boundaries of elephant distribution range is significantly improved	<ul style="list-style-type: none"> Fencing out the elephants in areas of intensive agriculture such as Namelok, although there are challenges in maintenance of the facilities due to vandals and commercial interests across the fences rendering sections of the electric fence useless. KWS has a human wildlife control unit based at Loitokitok and Rombo stations Collaring the elephants to know their movements.
3. National Conservation and Management Strategy for the Black Rhino and Management Guidelines for the White Rhino in Kenya (2007-2011)	<p>3.3.2) Strategies for minimizing rhino poaching through effective enforcement.</p> <p>3.3.2) Strategies for ensuring that security staff in private and community sanctuaries are enlisted in the Kenya police Reserve (KPR) to enhance powers and legal status</p>	<ul style="list-style-type: none"> Use of anti poaching tracker dogs by Big Life Foundation, Use of monitoring collars by KWS Deployment of Rhino surveillance specialized units to the rhino range areas. Use of security informers from among the community members. Plans are underway to retrain the game scouts to carry arms for frontline duties in wildlife protection. The Cabinet Secretary for Interior is in the process of gusseting game scouts as members of Kenya Police Reservists. This will enhance their legal status in the management of conservation and wildlife management duties. The recruitment of a game scout coordinator is in the process.

6.5.2: Other emerging stakeholder inputs according to the programme objectives

- The porous boundary between Kenya and Tanzania is posing some security threats especially for in terms of bush meat poaching and ivory trafficking.
- Poaching for game meat in the areas neighbouring urban centers should be addressed.
- Land subdivision and widespread land sales will result to unemployed youth who are cannot practice pastoralism and may increase insecurity in the AE.
- Conflicts over water use is already a security problem and is likely to escalate with the prolonged drought and as more people turn to irrigated agriculture.

6.5.3: Stakeholder concerns according to the programme objectives

- There are less than 50 KWS rangers in the entire Amboseli ecosystem which is too small to patrol an area of over 6000 km². The number of KWS outpost should be increased at least to 15 with outposts in strategic places such as Iltilal and Merurushi among other places.

- b) The Human wildlife conflict incidences are on the increase as a result of competing land uses in the AE and rapidly increase in human population and associated infrastructure development.
- c) With more tourist facilities operating in the conservancies, there is need for increased visitor security outside the park.

6.6: ECOSYSTEM OPERATIONS

6.6.1: Stakeholder contributions for the PPP gaps in the Ecosystem Operations Programme

Table 6- 6: Stakeholder contributions for the PPP gaps in the Ecosystem Operations Programme

a) Trans-boundary frameworks

Name of framework	PPP obligation gap issues	Stakeholder contributions
1. EAC Protocol on Environment and Natural Resources	Article 9 3. Agreements or strategies for the management of trans boundary wildlife ecosystems and protected areas	The security agents and games scouts from Amboseli and Tanzania meet once every three months to share information and plan joint operations at the ecosystem level.
	Article 12 2(g) Raise public awareness on issues of conservation and sustainable use of wildlife	This can be done through joint planning where both the Kenyan and Tanzanian conservation agents agree on the issues to create awareness and publicity on and then each actor does it on their side.
2. EAC Climate Change Policy (EACCP) – 2011	Section 3.1.3.3 (iv) Promoting rain water harvesting, protection of water well , springs and other water sources	<ul style="list-style-type: none"> ▪ KWS is constructing four water pans at strategic points of Amboseli park to harvest water for livestock and wildlife during the rainy season ▪ Scientists will be monitoring the water levels and discharge of water sources so as to have a criteria for protection of springs and wetlands ▪ The park management is also in the processes of removing the asbestos roofs from the staff houses to replace them with iron sheets roofs from where rain water will be harvested into tanks for use in staff households
	(v) Promoting Climate change integration in all planning and design of infrastructure	<ul style="list-style-type: none"> ▪ The Senior Warden of Amboseli National Park indicated that there is necessity to design adaptive bridges, roofs, culverts road drainage but currently there is no progress on this area. ▪ The warden also indicated that ESIA's are not effective in mitigating the impacts of climate change
	(vi) Promoting Disaster Risk Reduction (DRR) concept through the five priority areas of the Hyogo Framework of Action (HFA)	There are no disaster preparedness measures in the AE but the Senior Warden had called a meeting to sensitize the stakeholders on the necessity to institute such measures

b) International frameworks

Name of framework	PPP obligation gap issues	Stakeholder contributions
1. Seville Strategy for the management of Biosphere Reserves	Staff training 2. Seeking WNBRE to support local training e.g. through AfriMAB or UNESCO through KWS 3. Future role of ANP as regional BR training center through AfriMAB or UNESCO	<ul style="list-style-type: none"> ▪ The Senior Warden indicated that there are no indicators that Amboseli National park is managed as a biosphere reserve as the biosphere concept and activities are all based at KWS HQ in Nairobi. ▪ All the wardens expressed the need to convert the Loitokitok KWS station into a biosphere reserve training centre aimed to building local capacity for both staff and communities under the World Network of Biosphere Reserves (WNBRE) support
2. United Nations Convention to Combat Desertification	Article 10 (e) Development of sustainable irrigation programmes for both crops and livestock with integration of broader objectives	<ul style="list-style-type: none"> ▪ This has largely not been factored in the plan due to land subdivision, institutional conflicts over initiatives such as fencing and land use in the wetlands outside the park, political conflicts over land use and land subdivision. ▪ The irrigation that is currently being done is destructive and can accelerate desertification as it does not consider the broader

		objectives of conservation and food security in the AE according to the Senior Warden
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c) Policies

Name of policy	PPP obligation gap issues	Stakeholder contributions
1. The Constitution of Kenya	<p>Article 43 Supporting public involvement in ensuring the need for every person to have clean and safe water in adequate quantities</p>	<ul style="list-style-type: none"> IFAW is supporting the restoration of the old pipeline that takes the water from the park to the group ranches for people and livestock. The Nolturesh water supply which is managed by Tana-Athi Water Services Board did not consider the water needs of the local people and is now facing the challenges of illegal connections and use of the supply line for irrigation that was not in the initial design. The public in the AE are not actively involved in water conservation but are engaged in over abstraction for irrigation Poor water governance in the AE will deny all the stakeholders their equitable share if the plan AEMP does not provide leadership into new and integrated water management measures Water use conflicts between irrigation, pastoralists, conservation and urban settlements are on the increase
2. Sessional Paper No. 6 of 1999 on Environment and Development	<ul style="list-style-type: none"> Rangeland resources Instituting measures to manage livestock within the carrying capacity of the land 	<ul style="list-style-type: none"> No such measure are in place as the land is being subdivided, the dry season grazing areas are being taken over by agriculture and there are no livestock marketing initiatives in place Boran bulls have been introduced to change the breed into more marketable and bigger Boran animals, but the animals eat more grass increasing the rate of range degradation and are not drought resistant resulting to bigger losses during drought The land for livestock is diminishing due to competent with agriculture and sedentary settlements in the AE pushing livestock to areas with no water such as the Imbirikani plains and Elerai landscape. Cattle dips and extension services have collapsed and disease management is done largely by the Masaai pastoralists themselves using try and era treatment Cattle grazing routes which are also wildlife migratory corridors are being blocked by agricultural fields and human settlements The subdivision of Kimana Group Ranch has secured land for livestock and wildlife in the conservancies but there is a great threat from degradation if the livestock numbers in these conservancies are not checked. However, biggest worry is the rate at which the Maasai landowners are selling land and there's no doubt this will quickly lead to collapse of pastoralism The number of livestock grazing and watering in the AP has increased over the years as the carrying capacity of the GRs is exceeded especially during the dry seasons. Mr. Kanai chair of Kuku B Group Ranch proposes that the park regulations should be changed to allow grazing inside the park because they also tolerate wildlife on the communal lands The traditional quarantine system has collapsed due to non-controlled livestock trade routes used by marketing cartels. The AET members proposes construction of abattoirs and slaughter houses that are easily accessible to land owners That most livelihood benefits to an individual landowner comes from livestock/pastoralism as opposed to other land uses and for that reason the livestock range should be protected from degradation.
	<ul style="list-style-type: none"> Regulating human settlements and urban development to only those areas that are suitable, avoiding ecologically fragile areas 	<ul style="list-style-type: none"> The wetland areas are fragile in that they are prone to water pollution, solid waste contamination, encroachment and reclamation for housing agriculture and construction of lodges. The wetlands in Amboseli Ecosystem are the ones attracting urban development's as in the cases of Isineti, Namelok and Kimana in the absence of physical planning or regulated developments. This is in conflict with conservation of a biosphere reserve and protection of wildlife habitats. In an ideal situation, the lowlands and associated wetlands should have been reserved for livestock and wildlife while the raise grounds like Loitokitok, Entarara and upper Rombo reserved for agriculture and settlement in the

		<p>AEMP. The remaining fragile area along Nolturesh river, should be secured through County by laws and AEMP</p> <ul style="list-style-type: none"> There is need for Legal backing to control the development of urban centre's in the AE
	Adherence to the polluter pays Principal	<ul style="list-style-type: none"> In future no more lodges should be built next to wetlands as in the case of Serena Oltukai, and Kilimanjaro lodges among other. Future developments should be towards Kitenden Corridor to avoid polluting the wetlands Encourage recycling to minimize the footprint Penalties should be instituted for non-integration
3. Draft Environment Policy (2012)	Working with private sector, NGOs and CBOs to enhance Corporate Social Responsibility	<ul style="list-style-type: none"> There are no CSR programmes driven by the private sector but AET will make a deliberate move to involve them in community programmes especially those with a stake in the ecosystem. NGOs and CBOs have conservation programmes which are not necessarily CSR based. Big Life Foundation has been giving, scholarships (up to 90 students have been sponsored, building classrooms and paying teachers. However KWS has hired two teachers for Amboseli primary School as a CSR gesture
4. National Gender and Development Policy	Considering the needs and aspirations of all Kenyan men Women, boys and girls across economic social and cultural lines	<ul style="list-style-type: none"> There are no gender based programme in the AE and the women remains largely trapped by the dominant paternalistic culture preventing them from participating adequately in development. Men's position in society is maintained by pastoralism which mostly marginalizes women. Boys and girls are discouraged from going to school to be used as the reason for begging from tourists by their parents. Conservation activities mostly benefits outsiders as the local Maasai men and women do not have the required capacities to work for KWS and the Lodges at technical or management levels
5. National Environmental Sanitation and Hygiene policy (2007)	Setting of clear Standards and guidelines for environmental sanitation	<ul style="list-style-type: none"> There are no clear standards for environmental sanitation for both the conservation areas and tourism facilities. However there are some park rules e.g. of not littering inside the park But now that most conservation and tourism activities are taking place outside the park, the sanitation standards and guidelines should be for the entire ecosystem. The sanitation awareness and enforcement should be delegated to game scouts as they cover the entire ecosystems in their patrols
6. Energy Act No. 12 of 2006	Promotion of renewable energy sources including Solar and hybrid system	<ul style="list-style-type: none"> There is an effort to upscale the use of solar energy in the KWS staff residential houses and at the gates, but there are no dedicated budgets for this initiative. The entire ecosystem is traversed by electricity transmission lines in spite of its immense potential for solar power generation. As a biosphere reserve the use of green energy for conservation would contribute in the retention of conservation character in the destination

6.6.2: Other emerging stakeholder inputs according to the programme objectives

- Protection of large predators due to retaliation by the Masai Moran after they kill livestock. Big Life Foundation is running a consolation scheme but it is not adequate.
The growing incidences of Human Wildlife Conflicts especially in the irrigated wetlands should be addressed. Rampant and uncontrolled use of water pumps to abstract water from wetlands and rivers for irrigation is a big problem.
- Use of pesticides in the irrigated farms has polluted and contaminated the water sources and is responsible for the increasing number of cancer cases in the AE.
- Use of pesticides in the irrigated farms has polluted and contaminated the water sources and is responsible for the increasing number of cancer cases in the AE.
- Land subdivision impacts has already caused the following:
 - Loss of land
 - Loss of language
 - Loss of wildlife conservation and pastoral lands
 - Loss of culture and tourism attractions
- The current direct benefits from conservation and tourism in conservancies are causing agitation for more land subdivision in the AE.
- There is no cohesion amongst the conservation institutions, NGOs and GoK departments.

- g) Poor institutional linkages have left the lodges without any conservation responsibilities other than marketing the AE.
- h) KWS is not playing an active role in the development and sustenance of the emergent conservancies.

6.6.3: Stakeholder concerns according to the programme objectives

- a) Leadership is a big challenge with regard to the implementation of the AEMP.
- b) Absence of the County Government commitment and backing in addressing the emerging conservation challenges.
- c) There is a negative attitude toward formal education due to pastoralism culture.
- d) There is need to support feeding programmes in schools to keep the children in schools throughout.
- e) There is an upsurge of HIV Aids in the area that has been brought about by the horticulture drivers and businessmen with Kimana market leading in prevalence followed by Rombo market.
- f) Land subdivision is an agent of enhancing HIV/AIDS as the youth who sell their land results to drinking and engaging in unprotected sex with commercial sex worker who came to the area during the construction of Emali Loitokitok road.
- g) The closure of the Imbirikani clinic is a big blow to the management of HIV/AIDS in the AE.

6.7: STAKEHOLDER DIALOGUE WORKSHOP

An all-inclusive stakeholder dialogue workshop for the Amboseli SEA was conducted on 28th and 29th November in Loitokitok. The key objectives for the workshop were as follows:- a) to familiarize with the Amboseli Ecosystem Management Plan (2008-2018), b) to make known the findings and recommendations of the SEA for the Amboseli Ecosystem Management Plan (2008-2018), and c) to allow the stakeholders to contribute towards the finalization of the SEA report. The inputs by stakeholders in the dialogue workshop have been integrated in the report together with those from earlier consultations. The workshop proceedings as well as the list of participants are presented in Appendix 2.

7. PLAN IMPACT ANALYSIS, MITIGATION MEASURES AND ALTERNATIVE OPTIONS

7.1: POTENTIAL IMPACTS

The plan impact analysis was undertaken using the environmental indicators highlighted in Section 3.8. The detailed findings are presented in Appendix 3. On the overall, the assessment established that the AEMP was dominated by positive impacts in all the 5 programmes. It had very few negative impacts. Out of 250 plan activities in the five programmes only 27 were found to have potential negative impacts which translated to only about 10.8% of the management plan. Table 7-1 shows the programmatic breakdown of the 27 plan activities with a potential for negative environmental impact. Table 7-1 shows that the Security and Ecosystem Operations programmes had a higher number of negative impacts due to the proposed infrastructure development activities by KWS.

Table 7- 1: Summary of programme activities with a potential for negative impact in the first 3-year activities for the management plan

Programme	Number of plan activities with a potential for negative environmental impact
1. Ecological Management	3
2. Tourism Development and Management	5
3. Community Development and Outreach	5
4. Security	7
5. Ecosystem Operations	7

7.2: IMPACT CHARACTERIZATION FOR THE POTENTIAL NEGATIVE IMPACTS

7.2.1: Ecological & Tourism Programmes

Potential negative impact	Probability and risk of occurrence	Duration of impact	Magnitude	Reversibility	Importance
1. Impact of ban on charcoal trade on community livelihoods	Low	Short term	Small scale	Reversible ⁱ	Moderate ⁱⁱ
2. Impact of ban on charcoal trade on poverty reduction	Low	Short term	Small scale	Reversible ⁱⁱⁱ	Moderate ^{iv}
3. Impact of construction of wildlife watering points on resource conflict	Low	Long term	Small scale	Reversible ^v	Moderate
4. Impact of the construction of the Visitor Centre on range environment in Amboseli National Park	Low	Long term	Small scale	Irreversible	High
5. Impact on range environment from constructing walking trails at Imerishari and Kitirua Hills	Low	Long term	Small scale	Irreversible	High
6. Impact on climate change mitigation from constructing walking trails at Imerishari and Kitirua Hills	Low	Long term	Small scale	Irreversible	High
7. Impact on range environment of developing and marketing tourist Bandas at the Losikutok conservation area in Mbirikani group ranch	Low	Long term	Small scale	Irreversible	High
8. Impact on the range environment of establishing and operating Community tourist Bandas in Ologulului/Olorarashi group ranch	Low	Long term	Small scale	Irreversible	High

7.2.2: Community Partnership and Education Programme

Potential negative impact	Probability and risk of occurrence	Duration of impact	Magnitude	Reversibility	Importance
Impact of rehabilitation of Namelok and Kimana Fences ^{vi}	High	Long term	Big	Reversible	High
Impact of supplying adequate water to the dry season grazing zones ^{vii}	Medium	Long term	Medium	Reversible	Moderate
Impact of re-establishing gazetted livestock holding grounds in Loitokitok district and improve support infrastructure in the livestock markets ^{viii}	Medium	Long term	Big	Reversible	Moderate
Impact of constructing slaughter houses in the Amboseli ecosystem ^{ix}	Medium	Long term	Big	Reversible	Moderate
Impact of establishing a livestock Disease Free Zone(DFZ) ^x	High	Medium term	Big	Reversible	Moderate

- i. The demand for charcoal trade can be replaced by sustainable alternative livelihoods such as bee-keeping
- ii. Charcoal burning is not a widespread challenge in the ecosystem
- iii. The demand for charcoal trade can be replaced by sustainable alternative livelihoods such as bee-keeping
- iv. Charcoal burning is not a widespread challenge in the ecosystem
- v. The human-wildlife conflict can be reduced through provision of alternative watering points for people and livestock
- vi. As much as the fences are meant to reduce human-wildlife conflicts, they encourage irrigation agriculture in and around wetlands
- vii. Areas around water points get degraded by large numbers of livestock.
- viii. The land around holding grounds get degraded by livestock
- ix. Management failure of the slaughterhouse could frustrate the pastoralists
- x. DFZ will displace wildlife e.g. the wildebeest for fear Bovine malignant catarrhal fever (BMCF) which is a fatal lymphoproliferative disease caused by a group of ruminant gamma herpes viruses including Alcelaphine Herpes Virus 1 (AIHV-1) and Ovine Herpes Virus 2 (OvHV-2). These viruses cause in apparent infection in their reservoir hosts, (sheep with OvHV-2 and wildebeest with AIHV-1) but are usually fatal in cattle and other ungulates such as antelope, and buffalo.

7.2.3: Security Programme

Potential impact	Category of impact	Probability and risk of occurrence	Duration of impact	Magnitude	Reversibility	Importance
1. Impact on training staff to arrest and prosecute on public interests	Institutional	Low	Long term	Small scale	Reversible	Moderate
2. Impact of ground patrols on public interest	Institutional	Low	Medium term	Small scale	Reversible	Moderate
3. Impact on cross border wildlife security meetings on public interests	Trans-boundary	Low	Long term	Small scale	Reversible	High
4. Deployment of adequate intelligence staff on public interests	Institutional	Low	Long term	Medium scale	Reversible	High
5. Impact of game scout patrols on land subdivision	Economic	High	Long term	Large scale	Irreversible	High
6. Deployment of adequate security to KWS facilities on land degradation	Physical	High	Long term	Medium scale	Reversible	High
7. Deployment of adequate security to KWS facilities on land subdivision	Physical	High	Long term	Medium scale	Irreversible	High

7.2.4: Ecosystem Operations Programme

Potential impact	Category of impact	Probability and risk of occurrence	Duration of impact	Magnitude	Reversibility	Importance
1. Impact of establishing a small medical laboratory at the Amboseli Health Clinic on water resources	Physical	High	Long term	Small scale	Reversible	High
2. Impact of rehabilitating the former staff canteen and convert it into a boarding facility for children from Amboseli Primary School' on range degradation, land fragmentation and water resources	Physical	High	Long term	Medium scale	Irreversible	High
3. Impact of construction of staff houses and additional offices to house research and procurement sections	Physical	High	Long term	Medium scale	Irreversible	High
4. Impact of developing tourist roads outside the park	Physical	High	Long term	Large scale	Irreversible	High
5. Impact of implementing the electricity supply project on visual degradation and climate change mitigation and adaptation	Physical	Low	Long term	Medium scale	Irreversible	High
6. Impact of rehabilitating the former staff canteen and convert it into a boarding facility for children from Amboseli Primary School' on the protection of wildlife corridors , wetlands and springs	Physical	High	Long term	Large scale	Reversible	High
7. Impact from procurement of generators to pump water from boreholes on wildlife corridors and sustenance of conservancies	Biological	High	Long term	Medium scale	Reversible	High
8. Impact from the provision of adequate water at the gates on protection of wildlife corridors and threatened species	Biological	Low	Long term	Small scale	Reversible	High
9. Impact of constructing a gate at Kitirua entry point on protection of threatened species	Biological	High	Long term	Medium scale	Reversible	High
10. Impact of drawing a formal agreement regarding provision of water to the community adjacent to the park on conflict alleviation	Social	High	Long term	Large scale	Irreversible	High

7.3: IMPACT MITIGATION

7.3.1: Ecological and Tourism Programmes

Potential impact	Proposed mitigation
1. Impact of ban on charcoal trade on community livelihoods and poverty reduction	AEMP should support the enforcement the Forest Act (2002) Charcoal regulations
2. Impact of construction of wildlife watering points on resource conflict	AEMP should restrict the construction of wildlife watering points in Amboseli National Park and Community Conservancies in the Group Ranches
3. Impact of the construction of the Visitor Centre on range environment in Amboseli National Park	AEMP should ensure that pre-project ESIs and subsequent EAs are conducted on regular basis for the Visitor Centre
4. Impact on range environment from constructing walking trails at Imerishari and Kitirua Hills	AEMP should ensure that pre-project ESIs are undertaken
5. Impact on climate change mitigation from constructing walking trails at Imerishari and Kitirua Hills	AEMP should ensure that pre-project ESIs are undertaken
6. Impact on range environment of developing and marketing tourist Bandas at the Losikutok conservation area in Mbirikani group ranch	AEMP should ensure that pre-project ESIs and subsequent EAs are conducted on regular basis for the Bandas
7. Impact on the range environment of establishing and operating Community tourism Bandas in Ologulului/Olorarashi Group Ranch	AEMP should ensure that pre-project ESIs and subsequent EAs are conducted on regular basis for the Bandas

7.3.2: Community Partnership and Education Programme

Potential impact	Proposed mitigation
1. Impact of rehabilitation of Namelok and Kimana Fences ^{xi}	Evaluate the impact of the fence; and carry out regular EA
2. Impact of supply adequate water to the dry season grazing zones ^{xii}	AEMP should ensure that pre-project ESIs and subsequent EAs are conducted on regular basis
3. Impact of re-establishing gazetted livestock holding grounds in Loitokitok district and improve support infrastructure in the livestock markets ^{xiii}	AEMP should ensure that pre-project ESIs and subsequent EAs are conducted on regular basis
4. Impact of constructing slaughter houses in the Amboseli ecosystem ^{xiv}	Undertake a project feasibility study; pastoralists should have share in ownership of the slaughterhouse; competent managers
5. Impact of establishing a livestock Disease Free Zone (DFZ) ^{xv}	Undertake pre-project EIA and conduct regular EA

xi As much as the fences are meant to reduce human-wildlife conflicts, they encourage irrigation agriculture in and around wetlands

xii Areas around water points get degraded by large numbers of livestock.

xiii The land around holding grounds get degraded by livestock

xiv Management failure of the slaughterhouse could frustrate the pastoralists

xv DFZ will displace wildlife e.g. the wildebeest for fear Bovine malignant catarrhal fever (BMCF) which is a fatal lymphoproliferative disease caused by a group of ruminant gamma herpes viruses including **Alcelaphine Herpes Virus 1** (AIHV-1) and **Ovine Herpes Virus 2** (OvHV-2). These viruses cause in apparent infection in their reservoir hosts, (sheep with OvHV-2 and wildebeest with AIHV-1) but are usually fatal in cattle and other ungulates such as antelope, and buffalo.

7.3.3: Security Education Programme

Potential impact	Nature of impact	Proposed mitigation
1. Impact on training staff to arrest and prosecute offenders on public interests	Harassment of the public by the KWS and scouts leading to negative attitude towards wildlife and conservation	Spell out a clear mandate for the security agents ensuring that they work in close collaboration with local administrators such as Assistant Chiefs, Chiefs and Community Leaders
2. Impact of ground patrols on public interest	Disruption and interference with community livelihood activities that do not conform to conservation by security agents	AEMP should support the appointment of Honorary Wardens to coordinate with KWS personnel
3. Impact on cross border wildlife	Trans-boundary agreements may result to	AEMP should support community

security meetings on public interests	closure of trade routes and control of movement across and along the boundary to enhance wildlife security	participation in the implementation of joint security Trans-boundary initiatives through their local and village leaders
4. Deployment of adequate intelligence staff on public interests	The intelligence may not be limited to wildlife security but may result to further encroachment of political and economic freedoms of the communities in the AE resulting to institutional conflicts	AEMP should support the integration of wildlife/ecosystem security committees with County Administration and Central Government security systems
5. Impact of game scout patrols on land subdivision	The presence of game scouts has encouraged subdivision of Kimana Group Ranch as tourists operation in the resultant conservancies enjoy the security services of the game scouts	AEMP should ensure that the Group Ranches enjoy game scout services for free but conservancies should be charged a management fee in order to access the services of game scouts. Game scouts should also be used as extension agents to discourage land subdivision by demonstrating the diminishing options of a subdivided landscape
6. Deployment of adequate security to KWS facilities on land degradation	Presence of KWS security around gates and outposts attract human settlements in form of business enterprises, tourist facilities, livestock watering points, wildlife watering points, Maasai manyattas resulting to degradation of the surrounding areas	The AEMP should be very clear on land use and zoning so as to avoid conflicting land uses in one location and to avoid the devaluation of the tourism products by spinoff enterprises around the KWS gates, outposts and offices
7. Deployment of adequate security to KWS facilities on land subdivision	There are more cases and high rate of subdivision of Group Ranches near KWS security installations as general security is one of the investment location determining factors in the ecosystem	AET and KWS could spearhead gazettement as buffer zone of the immediate neighbourhood of Amboseli National Park through a negotiated agreement with the group ranches where the GRs would benefit from an annual compensation commensurate with the size of the land contributed to the buffer zone.

7.3.4: Ecosystem Operations and Management Programme

Potential impact	Nature of impact	Proposed mitigation
1. Impact of establishing a small medical laboratory at the Amboseli Health Clinic on water resources	The medical waste could compromise the water quality and wildlife health if not properly disposed off.	Consider investing in an incinerator at the health clinic
2. Impact of rehabilitating the former staff canteen and converting it into a boarding facility for children from Amboseli Primary School' on range degradation, land fragmentation and water resources	The establishment of a school could be the beginning of a major settlement as it is usually followed by the construction of teacher's houses, shops, a secondary section, a playground, computer labs, laboratories libraries among other facilities. If not checked in time this could lead to massive land degradation, loss of conservation land and pollution of water resources	The school should operate from the former canteen on a temporary basis but any further developments of facilities should be in another designated site that is safe for the children, does not encroach wildy corridor and has future space and potential for expansion

3. Impact of rehabilitating the former staff canteen and converting it into a boarding facility for children from Amboseli Primary School' on the protection of wildlife corridors, wetlands and springs	The area where the canteen is located is part of the fragile areas and the activity although noble conflicts with the conservation landscape	The AEMP should have a strategy for regular compliance monitoring for the recommended landuse zoning of essential services in the AE. The zoning should be supported by EIAs and SIAs for detailed assessments
4. Impact of construction of staff houses and additional offices to house research and procurement sections	The space inside the park is diminishing for wildlife as most of the dispersal areas are being lost to other land uses or becoming inaccessible to wildlife. The park space should then be conserved strictly for nature and the construction should be undertaken outside the park and in less fragile sites to reduce the space competition with wildlife and game viewing activities	All future office and staff residences should be located outside the park and in close proximity to other social infrastructure in order to: a) reduce the human impact inside the park, and b) reduce the operation footprint
5. Impact of developing tourist roads outside the park	The opening of tourist roads outside the park will attract other land uses such as cultivation, settlement and range degrading activities such as charcoal burning, saddle wood poaching and livestock markets thereby increasing degradation and land fragmentation	The tourist roads outside the park should be designed to have barriers manned by game scouts in order to reduce the secondary negative impacts to conservation and tourism
6. Impact of implementing the electricity supply project on visual degradation and climate change mitigation and adaptation	The electric posts are already having significant visual impact on ecosystem landscapes while the availability of power around the park is likely to attract new ventures that are incompatible with wildlife conservation and tourism activities	The long term AEMP strategy should be the promotion of solar energy for supplying the conservation and tourism facilities with green renewable energy and only have HEP as a backup in strategic facilities with underground transmission inside the park and conservancies
7. Impact of procurement of generators to pump water from boreholes on wildlife corridors and conservancies	Boreholes promote degradation around the water hole which becomes a permanent convergence area of wildlife and livestock. Generator operations are not sustainable as they use fossil based fuels which are expensive and promote emissions of GHGs which escalate the risks of climate change	The AEMP should promote the use of non-permanent water pans which are seasonal in nature to allow the restoration of degraded areas. Solar energy should be used for borehole water pumping but the water should be distributed to several water troughs in the range in order to distribute the degradation impacts and reduce the number of degradation hotspots
8. Impact from the provision of adequate water at the gates on protection of wildlife corridors and threatened species	Provision of adequate water at the gates will attract other developments into the gate area which expands and takes over critical wildlife habitats especially for threatened species	The AEMP should ensure that the provision of water supply near the gates should be restricted there and not connected to other premises in the neighbourhood. The national park gate areas should be gazetted as non-development areas complete with disincentive guidelines and timelines for demolition of temporary structures around the gates
9. Impact of constructing a gate at Kitirua entry point on protection of threatened species	This is likely to increase visitation to the area and in the process cause it to lose the current exclusivity for camping and high end tourism there by downgrading the tourism product being offered in the Kitirua area	The Kitirua area should be zoned as high end tourism with restriction to mass tourism so as to reduce the visitor impacts and retain it as a buffer zone
10. Impact of drawing a formal agreement regarding provision of water to the community	The formal agreement if breached is likely to increase incursions of livestock into the park and spearing of wildlife in the dispersal areas. The	The AEMP should ensure the establishment of a permanent fund, with sufficient recurrent allocation for

adjacent to the park on conflict alleviation	formal agreement should not be entered into in the absence of a sound financial allocation	development and supply of water to communities in the ecosystem before drawing a formal agreement, otherwise it might increase human wildlife conflict and visitor insecurity in the park as the next major conflict frontier in the AE will be on water access
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7.5: ALTERNATIVE OPTIONS

A comprehensive analysis of alternative options was undertaken in order to identify and recommend suitable activities which can be used for addressing the PPP gaps highlighted in Section 5. The recommended options for each programme are presented below.

7.5.1: Ecological Management Programme

PPP Gaps	Recommended activity options in the revised AEMP
1. Cooperating in promoting economic and social incentives in the conservation and sustainable use of wildlife resources	Undertake regular ecosystem-wide consultations through the AET to identify suitable social incentives
2. Supporting the development of common and coordinated marketing and promotion strategies, action plans, and implementation programmes for promoting both intra-regional tourism	Establish through the AET a joint forum for tour stakeholders in the Amboseli region and Mount Kilimanjaro region
3. Supporting transboundary EIAs for trans-boundary activities and projects that may have significant adverse environmental impacts.	Ensure that the County Environment Officer (CEO) in Kajiado screens all the ESIAs in the Amboseli Ecosystem and recommended full integration with the trans-boundary requirements
4. Promoting social protection as a tool for disaster risk reduction and climate change adaptation	Undertake capacity building on disaster risk reduction including social protection
5. Promoting climate change integration in all planning and design of infrastructure	Undertake capacity building on climate change adaptation for architects and engineers in Kajiado County
6. Promoting community based approach to disaster risk reduction and community based adaptation	Undertake capacity building on disaster risk reduction including social protection
7. Promoting management of cross-border natural resource based conflict as result of stress on water and pasture for pastoral communities	Undertake capacity building in TBNRM for relevant County government officers in Kajiado
8. Promoting the Disaster Risk Reduction (DRR) concept through the five priorities areas of the Hyogo Framework for Action (HFA),	Undertake capacity building on disaster risk reduction including social protection
9. Promoting of renewable energy technologies (solar power, wind energy)	Support the County Environment Office in Kajiado to organize a training workshop on Green Energy for tour investors and other high energy consuming businesses in the ecosystem
10. Enhance energy efficiency and saving	Support the County Environment Office in Kajiado to organize a training workshop on Green Energy for tour investors and other high energy consuming businesses in the ecosystem
11. Using WNBR to support local training	Support the establishment of a UNESCO Biosphere Reserve Focal Point at Amboseli National Park
12. Identifying representative BRs to serve as regional training centres	Support the establishment of a National Biosphere Reserve Training Centre in Amboseli with help from AfriMAB and UNESCO
13. Launching specific UN-DESD programs in BRs with a number of associated schools	Support the establishment of a National Biosphere Reserve Training Centre in Amboseli with help from AfriMAB and UNESCO

PPP Gaps	Recommended activity options in the revised management plan
14. Cooperating, as appropriate, with other States and international organizations in developing educational and public awareness programmes, with respect to conservation and sustainable use of biological diversity	Support the establishment of a National Biosphere Reserve Training Centre in Amboseli with help from AfriMAB and UNESCO
15. The development and implementation of educational and public awareness programmes on climate change and its effects	Undertake capacity building on climate change mitigation and adaptation through the Kajiado County NEMA office
16. Strengthening of drought preparedness and management, including drought contingency plans at the local, national, sub regional and regional levels, which take into consideration seasonal to inter-annual climate prediction	Undertake capacity building on climate change mitigation and adaptation through the Kajiado County NEMA office
17. Development of sustainable irrigation programmes	NIB, NEMA and AET undertake training on sustainable irrigation in the Amboseli Ecosystem
18. Working towards the achievement and maintaining a tree cover of at least 10% of the land area of Kenya by the year 2030	Undertake farm based reforestation to increase forest cover by 10% in the Loitokitok area
19. Developing drought and desertification monitoring and early warning systems	Double the number of institutional meteorological stations in the ecosystem
20. Providing incentives for rain water harvesting	AET to establish an annual award scheme for best practices in rainwater harvesting
21. Encouraging Kenyans to have family sizes which are sustainable	AET to undertake family planning in collaboration with the National Council for Population and Development (NCPD) regional office in Kajiado County
22. Regulating urban development to only those areas which are suitable, avoiding ecologically fragile areas	Support the County Environment Office in Kajiado to ensure that all development activities in the ecosystem are subjected to EIA before the approval of plans
23. Developing and implementing Drought and Desertification Monitoring and Early Warning Systems	Double the number of institutional meteorological stations in the ecosystem
24. Encouraging CDM investments for climate change mitigation	Support the County Environment Office in Kajiado to undertake training on CDM investments in Amboseli Ecosystem in collaboration with AET
25. Promoting and institutionalizing payment for environmental services schemes	Support the County Environment Office in Kajiado to undertake training on PES in Amboseli Ecosystem in collaboration with the AET
26. Ensuring increased per capita water availability above the international benchmark of 1000 m ³ by 2030	WRMA to undertake an Integrated Water Resources Master Plan for the Amboseli Ecosystem
27. Enhancing storm water management and rainwater harvesting	AET to establish an annual award scheme for best practices in rainwater harvesting
28. Halve, by 2015, the proportion of people without sustainable access to safe drinking water	WRMA to undertake an Integrated Water Resources Master Plan for the Amboseli Ecosystem
29. Providing incentives to provide the under-represented gender into wildlife conservation careers and occupations	Tour lodges and camps to employ at least 10% of their workforce from the local women
30. Ensuring that workplace initiatives are adapted for people with HIV/AIDS	Enforce a policy of no-discrimination for people living with HIV/AIDS
31. Developing an effective mechanism for sharing benefits including revenue with communities living adjacent to PAs	AET to establish a sub-committee to deliberate on the issue of equitable tourism benefit sharing in the Amboseli Ecosystem
32. Developing and implement wildlife disaster preparedness, response and rescue strategy	KWS Amboseli office to prepare a wildlife disaster preparedness, response and rescue strategy especially for the expected prolonged drought during climate change
33. Developing recovery plans for the conservation and survival of endangered and threatened species	Educate the Amboseli –Tsavo game Scout Association on the National Elephant, Rhino, and Lion Conservation Strategies
PPP gaps	Recommended options in the revised management plan

34. Prohibiting and controlling the introduction of alien species into natural habitats	AET to conduct training on the prevention of alien species invasions
35. Ensuring that no person shall carry out any of the activities stipulated in Section 42 of the Act (EMCA, 1999) without a Wetland Resource Use Permit by the relevant lead agency and an Environmental Impact Assessment License issued by the Authority where applicable	WRMA/NIB/NEMA to conduct regular meetings on collaborative enforcement of the wetland use regulations
36. Ensuring that every owner, occupier or user of land which is adjacent or contiguous to a wetland shall, with advice from the Authority, have a duty to prevent the degradation or destruction of the wetland, and shall maintain the ecological and other functions of the wetland	WRMA/NIB/NEMA to conduct regular meetings on collaborative enforcement of the wetland use regulations
37. Supporting community participation in forest management and conservation through CFAs	Establish CFAs in the Loitokitok area through the KFS Office
38. Ensuring appropriate precautions to prevent forest fires	AET to collaborate with KFS, KWS and other relevant agencies to train the Amboseli-Tsavo Game Scouts on fire prevention and fire fighting
39. Promotion of renewable energy sources including solar and hybrid system	AET to establish an annual award scheme for best practices in Green Energy
40. Promotion development of renewable energy technologies including biomass, biodiesel, charcoal, solar and wind	AET to establish an annual award scheme for best practices in Green Energy
41. Supporting the rehabilitation, regeneration and restoration of degraded rivers	AET in collaboration with WRMA to conduct a hotspot mapping for environmental rehabilitation of rivers, springs and wetlands in the Amboseli Ecosystem
42. Ensuring more sustainable compensation, consolation and insurance mechanisms against losses from elephant damage are successfully implemented	AET to establish a sub-committee to deliberate on the issue of HEC and victim compensation in the Amboseli Ecosystem
43. Supporting public awareness on rhino illegal killing and illegal horn trade	Educate the Amboseli –Tsavo game Scout Association on the National Elephant, Rhino, and Lion Conservation Strategies
44. Reviewing school outreach programs to incorporate lion and hyena conservation issues	Educate the Amboseli –Tsavo game Scout Association on the National Elephant, Rhino, and Lion Conservation Strategies
45. Supporting gazettement and protection by County Government of ecologically fragile and conservation areas in the NMR as part of the effort aimed at reducing the region's ecological footprint	Kajiado County Government to officially gazette all the Community Conservancies in the Amboseli Ecosystem and ensure proper beaconing of all the boundaries for conservation areas in the region
46. Implementing the national climate change response strategy	Undertake capacity building on climate change mitigation and adaptation through the County Environment Office in Kajiado

7.5.2: Tourism Development and Management Programme

PPP gaps	Recommended options in the revised management plan
1. Supporting the development of common and coordinated marketing and promotion strategies, action plans, and implementation programmes for promoting intra-regional tourism	AET in collaboration with tourism stakeholders to establish the Amboseli Tourism Stakeholder Forum as a platform where stakeholders engage in discussions, share marketing strategies that would encourage coordinated inter-regional tourism programmes
2. Developing a code of conduct for tourists and tour operators	Amboseli Tourism Stakeholder Forum to develop a business code of conduct in the Amboseli Ecosystem
3. Promoting rain water harvesting, protection of water wells and springs, and other water sources	AET to organize regular awards for best practices in water conservation in the tourism sector within the Amboseli ecosystem
4. Promoting climate change integration in all planning and design of infrastructure	AET in collaboration with Amboseli Tourism Stakeholder Forum to ensure climate change adaptation for all the new tourism establishments in the Amboseli Ecosystem

PPP gaps	Recommended options in the revised management plan
5. Promotion of renewable energy technologies (solar power, wind energy)	AET in collaboration with Amboseli Tourism Stakeholder Forum to ensure environmental sustainability for all the new tourism establishments in the Amboseli Ecosystem by supporting natural lighting in buildings, use of water saving devices, heat retaining technologies and use of resource saving signage
6. Adopting measures, incentives and disincentives to promote the re-use, recycling and reclamation of re-usable packaging material and combats the pollution of the environment.	AET in collaboration with Amboseli Tourism Stakeholder Forum to establish an scheme for Best Environmental Practice award for hotels, lodges and camp sites
7. Working with private sector, NGOs and CBOs to enhance corporate social responsibility and accountability	AET in collaboration with Amboseli Tourism Stakeholder Forum, NEMA and Kenya Private Sector Alliance (KPSA) and other relevant stakeholders to conduct training on environmental CPR within the Amboseli Ecosystem
8. Improve effluent waters treatment and recycle for use	NEMA County Environmental Officer in Kajiado County to conduct annual inspections on effluent waste water disposal in tourism facilities within the ecosystem
9. Ensuring that workplace initiatives are adapted for people with HIV/AIDS	AET in collaboration with the Loitokitok MOH and National AIDS Control Council to conduct regular HIV/AIDS awareness campaigns in Amboseli National Park, Isinet, Namelok and Kimana
10. Ensuring the empowerment of women	Undertake capacity building through CRS campaigns to better: education, impaction of skills, employability, for the girl child an women (In line with Millennium Development Goals)
11. Developing integrated environmental management principles for all tourism and other major economic development projects	AET in collaboration with NEMA County Environment Officer in Kajiado County to screen all the tourism development projects and ensure that EIA at inception and subsequent annual Environmental Audits that comply with environmental principles as stipulated in an integrated general management plan
12. Implementing, and promoting environmental awareness among all tourism stakeholders	AET in collaboration with Amboseli Tourism Stakeholder Forum and NEMA to engage tourism stakeholders in forums on environmental issues. For example, by organizing tourism exhibitions, marathon, and other activities that can communicate environmental-related messages to encourage learning from each other.
13. Controlling of fire outbreaks	AET in collaboration with Amboseli Tourism Stakeholder Forum and other relevant stakeholders such as the Kenya Red Cross to conduct training on fire safety and emergency response within the tourist establishments and ensure integration with the Kenya Fire Safety Guidelines (2009)

7.5.3: Community Programme

PPP gaps	Recommended options in the revised management plan
1. Supporting the establishment of regional quality and standards control mechanism harmonizing the standards for registration, accreditation and grading of tourism service providers and tourism facilities;	AET in collaboration with Amboseli Tourism Stakeholder Forum, Eco-tourism society of Kenya (ESOK) and OIKejuado Tourism Development Office to develop standards, accreditation and grading of tourist facilities
2. Supporting trans boundary EIAs for trans-boundary activities and projects that may have significant adverse environmental impacts	Ensure that the NEMA County Environment Officer (CEO) in Kajiado screens all the EIAs in the Amboseli Ecosystem and recommends full integration with the trans-boundary requirements
3. Enhancing disaster risk preparedness through inter alia: production, acquisition and dissemination of weather and climate information services for improved early warning systems (EWS)	Double the number of institutional meteorological station s in the ecosystem

PPP gaps	Recommended options in the revised management plan
4. Promoting of renewable energy technologies (solar power, wind energy)	AET in collaboration with Amboseli Tourism Stakeholder Forum to ensure environmental sustainability for all the new tourism establishments in the Amboseli Ecosystem by supporting natural lighting in buildings, use of water saving devices, heat retaining technologies and use of resource saving signage
5. Enhance energy efficiency and saving	Support the County Environment Officer to organize a training workshop on Green Energy for tour investors and other high energy consuming businesses in the ecosystem
6. Working towards the achievement and maintaining a tree cover of at least 10% of the land area of Kenya by the year 2030	Undertake farm based reforestation to increase forest cover by 10% in Loitokitok area
7. Supporting the development of integrated management plans for sustainable and multiple use of wetlands	AET in collaboration with group ranches to organise planning sessions for all wetlands in Amboseli Ecosystem
8. Discouraging inappropriate conversion of ASALS into agriculture	AET in collaboration with group ranches to organise planning sessions for all wetlands in Amboseli Ecosystem
9. Encouraging Kenyans to have family sizes which are sustainable	AET to undertake family planning in collaboration with the National Council for Population and Development (NCPD) regional office in Kajiado County
10. Adherence to the polluter pays principle	Support the County Environment Office in Kajiado to develop guidelines to be used to ensure a pollution free environment and penalize those who offend the environment and have them adopted by the county government
11. Adopting measures and incentives and disincentives to promote the re-use, recycling and reclamation of re-usable packaging material and combats the pollution of the environment	AET in collaboration with Amboseli Tourism Stakeholder Forum to establish an scheme for Best Environmental Practice award for hotels, lodges and camp sites
12. Supporting establishment of constructed wetlands for waste management	County Environment Office in Kajiado should recommend construction of wetlands where appropriate when reviewing EIA projects in Amboseli Ecosystem
13. Formulating an innovative strategy to increase forest and tree cover from the current 2% to at least 10% by 2030	Undertake farm based reforestation to increase forest cover by 10% in Loitokitok area
14. Promoting and institutionalizing payment for environmental services schemes to support watershed protection initiatives	County Environment Office in Kajiado to undertake training on PES in Amboseli Ecosystem in collaboration with the AET
15. Ensuring increased per capita water availability above the international benchmark of 1000 m ³ by 2030	WRMA to undertake an Integrated Water Resources Master Plan for the Amboseli Ecosystem. AET in collaboration with WRMA to conduct a hotspot mapping for environmental rehabilitation of rivers, springs and wetlands in the Amboseli Ecosystem
16. Improving effluent waters treatment and recycle for use	AET in collaboration with NEMA Olkejuado County Environmental Office to ensure that all hotel tourist facilities in the Amboseli Ecosystem apply and are granted effluent discharge license
17. Strengthening traditional systems of governance and alternative dispute resolution mechanisms	AET Establish the proposed Resource Centre at Noonkotia for the AE communities cultural and traditional knowledge and to be a centre of research and other collaborative activities in the AE
18. Ensuring that natural wetlands under private ownership will be subject to regulations	County Environment Office in Kajiado to ensure that private land owners with natural wetlands carry out EIA before they use them
19. Ensuring that any land resulting from receding of natural wetlands shall continue to remain inalienable state land and be regarded as riparian land and shall not be allocated as private land	County Environment Office in Kajiado to ensure that private land owners with natural wetlands carry out EA every year

PPP gaps	Recommended options in the revised management plan
20. Ensuring that special wetland sites are designated and gazette as conservation areas to be protected as wetland reserves where no consumptive uses will be allowed	AET in collaboration with County Environment and WRMA Office in Kajiado to map out important wetlands and develop management plans for them
21. Providing incentives to provide the under-represented gender into wildlife conservation careers and occupations	Community wildlife conservancies should employ at least 10% of their work force from the group ranch membership
22. Support the establishment of constructed wetlands in business areas	AET in collaboration with County Environment and WRMA Office in Kajiado to map out important wetlands and develop management plans for them
23. Rehabilitation of forests	AET to collaborate with KFS and form Community Forest Associations (CFAs) around Loitokitok area
24. Establishment of nurseries and production of seedlings	AET to support CBOs in Loitokitok area to establish tree nurseries
25. Considering the needs and aspirations of all Kenyan men, women, boys and girls across economic, social and cultural lines.	Mainstream gender and youth issues in the group ranch activities
26. Ensuring the empowerment of women	Lodges and camps should employ at least 10% of their workforce from the local women
27. Ensuring the use of sanitation systems that are environmentally sound	Carry out public health education in the ecosystem
28. Preventing environmental pollution from liquid and solid waste	County Environment Office in Kajiado to ensure all property owners carry out annual environmental audits
29. Setting of clear standards and guidelines for environmental sanitation	Ensure that the County Environment Officer (CEO) in Kajiado screens all the EIAs in the Amboseli Ecosystem and recommends full integration with environmental sanitation requirements
30. Establishing and strengthen the community capacity to maintain effective systems for conflict early warning and early response	Undertake capacity building on conflict early warning and early response
31. Supporting carbon offset schemes	Form CFAs to manage pockets of forests and, increase on-farm tree cover in Loitokitok area
32. Supporting schemes on compensation for environmental services	County Environment Office in Kajiado to undertake training on PES in Amboseli Ecosystem in collaboration with the AET
33. Supporting the control of the spread of invasive species	AET to conduct training on the prevention of the spread of alien species invasions
34. Management of invasive alien species	AET to conduct training on management of alien species invasions
35. Promoting gender awareness and involvement in all biodiversity programmes and projects	Tour lodges and camps to employ at least 10% of their workforce from the local women
36. Ensuring that all new infrastructure is climate-proof over its lifespan	AET in collaboration with the County Public Works Office to ensure that infrastructure development in the Amboseli Ecosystem is climate-proof

7.5.4: Security Programme

PPP gaps	Recommended options in the revised management plan
1. Establishment of alternative livelihood projects that could provide incomes in drought prone areas	Promote the growth of biofuel plants, medicinal plants, establish botanical gardens, process biltong meat, organize cultural festivals, promote filming industry, organize bull fighting shows and organize walking expeditions among others
2. Strengthening traditional systems of governance and alternative dispute resolution mechanisms	AET to strengthen and formalize the community traditional institutions for collaborative actions
3. Applying conflict-sensitive approaches to development	Use of Participatory Rapid Appraisals (PRAs) approach to establish baselines for new initiatives in the AE

7.5.5: Ecosystems Operations Programme

PPP gaps	Recommended options in the revised management plan
1. Developing and diversifying tourism products which are not very sensitive to climate change	AET to commit development funding on cultural and educational tourism
2. Promoting climate change integration in all planning and design of infrastructure	Mainstream climate change mitigation in all infrastructure designs and capacity building on climate change adaptive technologies for all heads of department in Kajiado County
3. Promoting climatic risk assessment and monitoring through vulnerability assessment, risk and hazard mapping	Conduct baseline research on hazard and vulnerability mapping in the AE
4. Promoting the Disaster Risk Reduction (DRR) concept through the five priorities areas of the Hyogo Framework for Action (HFA),	Mainstream Disaster Risk Reduction in all development work and ensure that every institution in the AE has a disaster preparedness strategy
5. Promoting of renewable energy technologies (solar power, wind energy)	Create incentives for adoption of green energy in all conservation and tourism facilities
6. Enhance energy efficiency and saving	Conduct annual energy audits as part of the annual environmental audits for facilities and the reports copied to AET
7. To provide for the management and regulation of trans boundary ecosystems of the East African Community, to establish a commission for the management of trans boundary ecosystems and to provide for other related matters.	Liaise with the EAC Commission for greater cooperation on trans-boundary ecosystem management
8. Ensuring environmental awareness on trans-boundary ecosystems	Create awareness on transboundary ecosystem linkages through seminars and publicity through faith based institutions as well as joint community events such as Cross-border Environment Marathons
9. Using the World Network of Biosphere Reserve (WNBR) for cooperative research programmes	AET to re-establish links with AfriMAB and establish a joint research fund and research protocol in the AE under the park management committee
10. Monitoring activities: Encouraging and develop linkages with other BRs in the country and the world	Host biosphere reserves field days to share best practices and information with stakeholders
11. Education and public awareness: Exchanging of experience and information between BRs	Organize exchange visits between biosphere reserves for leaders through AET and park management
12. Staff training: Using WNBR to support local training & Identifying representative BRs to serve as regional training centers	Establish a BR training centre in Loitokitok for the AE staff, community and stakeholders
13. Launching specific UN-DESD programs in BRs with a number of associated schools	Initiate a BR program for schools through the park Management committee
14. Establishing strategies and priorities to combat desertification and mitigate the effects of drought	Disseminate best practices through village barazas
15. Promoting awareness and facilitate the participation of local populations, particularly women and youth, with the support of non-governmental organizations, in efforts to combat desertification and mitigate the effects of drought	Plant selected species of trees in the rangelands, wetlands and catchment areas through AET and the Kenya Forest Service
16. Eliminating processes and activities that are likely to endanger the environment;	Conduct ESIA for all development projects in the AE
17. Discouraging inappropriate conversion of ASALs into agriculture	Zone and regulate the various land uses in the EA
18. Developing drought and desertification monitoring and early warning systems	Train game scouts on data collection and reporting
19. Supporting establishment of constructed wetlands for waste management	Develop a demonstration site for waste management through constructed wetland
20. Encouraging CDM investments for climate change mitigation	Hold CDM investment capacity workshops for target groups such as irrigation farmers
21. Promoting and institutionalizing payment for	Support economic valuation of nature goods and services in the AE

environmental services schemes to support watershed protection initiatives	through joint research by conservation NGOs
22. Enhancing storm water management and rainwater harvesting	Enact county by laws to ensure that all new buildings and facilities should have storage tanks with capacity to last them three months or more
23. Promoting low-maintenance water technologies, with an emphasis on water harvesting	Construct water pans in all the AE land blocks and conservancies through AET and park management committees
24. Ensuring that special wetland sites are designated and gazette as conservation areas to be protected as wetland reserves where no consumptive uses will be allowed	Create county by-laws to gazette community owned conservation and heritage sites within the county
25. Providing incentives to provide the under-represented gender into wildlife conservation careers and occupations	Establish an employment policy guideline at KWS to create an employment quota for communities that host conservation in every ecosystem
26. Developing an effective mechanism for sharing benefits including revenue with communities living adjacent to PAs.	Pay benefits to communities based on the criteria of land committed to pastoralism and conservancies by the group
27. Developing and implement wildlife disaster preparedness, response and rescue strategy	Improve water access in the group ranches to distribute the grazing impacts that makes droughts more severe especially inside the Amboseli park
28. Incorporating or domesticating the provisions of the relevant wildlife related Multi-lateral Environment Agreements (MEAs) to which Kenya is a Party	Liaise with KWS head office to ensure appropriate domestication of MEA obligations in strategic plans and ground activities
29. Encouraging the private sector to undertake environmental CSR	AET to establish a sustainability fund for Amboseli Ecosystem and invite the private sector to donate and be part of the fund management by creating a private sector position in the AET Board
30. Ensuring the empowerment of women	Create an exclusive benefit sharing arrangements for women groups in the AE from conservation fee paid to the park and from the conservancies
31. Maximizing the co-ordination between conservation programmes of Government agencies and non-governmental organizations	Set aside an AE conservation day to give all actors including governments an opportunity to showcase their conservation contribution to the AE
32. Establishing and strengthen the community capacity to maintain effective systems for conflict early warning and early response	Promote the traditional mechanisms of drought and livestock disease mitigation
33. Ensuring integration with all other relevant EMCA Regulations including the following:- <ul style="list-style-type: none"> a. The Environmental management and coordination (Noise And Excessive vibration Pollution Control) Regulation, 2008 b. Water Quality Regulations, 2006 (Legal notice No. 121) c. Waste Management Regulations, 2006 (Legal Notice No.121) d. Air Quality, Regulations, 2008 e. Fossil Fuel Emission Control Regulations (2006) f. Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit sharing Regulations (2006) g. Draft E-Waste Management, Regulations 2013 	Park management committee and AET to organize for peer review by leaders and professionals from other ecosystems and vice versa

8. ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLAN

8.1: INTRODUCTION

The aim of the Environmental Management and Monitoring Plan (ESMP) is to detail the actions required to effectively implement the mitigation measures and alternative options for the environmental obligation gaps identified and recommended in the SEA as highlighted in Section 7.3 and Section 7.5. These actions are necessary in order to:- a) minimize the negative impacts which might originate from the plan implementation and instead enhance the positive impacts of the AEMP, and b) support the long term management and monitoring of the environmental issues during plan implementation. It is important to note that an ESMP is a living entity which might require regular review as new information such as policies, national strategies and plans are developed throughout the lifespan of the AEMP.

8.2: MANAGEMENT AND MONITORING ACTION

The SEA has prescribed applicable mitigation measures for each of the plan activities with a potential for negative environmental impact and also recommended suitable alternative options to deal with the environmental obligation gaps which were identified in the PPP analysis. The SEA has recommended simple, straight-forward and tangible management actions which are specific to each of the mitigation measures and alternative options. These can be considered as the direct environmental management prescriptions which will deal with the environmental challenges identified in the AEMP. The various actions should be implemented to ensure that the environmental weaknesses are addressed the good of the Amboseli Ecosystem. Each action is given a reference number for easy implementation and all the actions are measurable and easy to monitor. The monitoring frequency and indicators have been recommended for each management action. Regular monitoring using the recommended indicators will indicate the level of progress with regard to ensuring environmental sustainability in the Amboseli Ecosystem.

8.3: ENVIRONMENTAL MANAGEMENT AND MONITORING STANDARDS AND GUIDELINES

Specific standards and guidelines have been identified for each management action. These were identified mostly from the PPP framework against which the AEMP was evaluated in the SEA. This will be used during the environmental management and monitoring of the AEMP.

8.4: ROLES AND RESPONSIBILITIES

It is the responsibility of the AET to implement the ESMP and to make sure that all the actions are carried out in partnership with a wide range of other stakeholders as outlined in the ESMP. The successful implementation of the ESMP is however dependent on clearly defined roles and responsibilities for each of the management actions given as clearly indicated in the ESMP.

8.5: ESMP SCHEDULE

The schedule serves to give the list of environmental action to be undertaken. The ESMP schedule is given in Table 8-1.

Table 8- 1: The ESMP for the implementation of the AEMP

Ref No.	Mitigation measures and alternative options	Recommended management and monitoring action	Institutional responsibility including enforcement co-ordination	Monitoring frequency	Monitoring indicators	Standard/ guidelines
1. Ecological Management Programme						
1.1	Enforce the Forest Act (2002) Charcoal regulations to control charcoal trade	Identify and record all the key charcoal burning areas in the ecosystem	AET/KFS	Quarterly	Number of kilns	Forest Act (2002)
1.2	Establish a joint stakeholder forum for tour operators in the Amboseli region and Mount Kilimanjaro region	Provide a forum office at the Amboseli Resource Centre	AET	-	Number of meetings	AEMP
1.3	Ensure that the County Environment Office in Kajiado screens all the ESIA's for new developments in the Amboseli Ecosystem	Create a position for Environment Officer at AET to liaise with the CEO	AET	Annually	Number of ESIA's and EAs in which comments are submitted to NEMA	EMCA/AEMP
1.4	Undertake capacity building on disaster risk reduction including social protection	Training workshops	AET/KWS/Red Cross	-	Number of training meetings	National Disaster Risk Reduction Strategy
1.5	Undertake capacity building in TBNRM for government officers in Kajiado County	Training on EAC transboundary environmental frameworks	AET/EAC Coordinating Office	-	Number of training activities	EAC frameworks
1.6	Organize a training workshop on Green Energy for tour investors and other high energy consuming businesses in the ecosystem	Training workshops	NEMA/AET	-	Number of training activities	-
1.7	Establish a UNESCO Biosphere Reserve Focal Point at Amboseli National Park	Establish a local UNESCO-MAB office	KWS/AET/ACC/AWF/ IFAW/ Kenya National Commission for UNESCO	-	Annual reports	Seville Strategy
1.8	Establish a National Biosphere Reserve Training Centre in Amboseli with help from AfriMAB and UNESCO	Establish a UNESCO-MAB office	KWS/AET//ACC/AWF /IFAW/ Kenya National Commission for UNESCO	-	Annual reports	Seville Strategy

Ref No.	Mitigation measures and alternative options	Recommended management and monitoring action	Institutional responsibility including enforcement co-ordination	Monitoring frequency	Monitoring indicators	Standard/ guidelines
1.9	Undertake capacity building on climate change mitigation and adaptation through the County Environment Office in Kajiado	Training workshops	AET/AWF/National Climate Change Office	-	Number of training activities	NCCRS
1.10	Undertake farm based reforestation to increase forest cover by 10% in the Loitokitok area	Establish tree nurseries	AET/KFS/WRUA Council	Annually	Number of seedlings distributed to farmers	Forest Act (2005)
1.11	Double the number of institutional meteorological stations in the Amboseli ecosystem	Installation and monitoring of weather stations in schools and other public institutions	KMD/KWS/AET/IFAW /ACC/AWF	-	Number of records in database	KMD guidelines
1.12	Establish an annual award scheme for best practices in rainwater harvesting within the ecosystem	Seek funding and establish a prize	AET/WRMA/TANTHI/ NETFUND	Annually	Number of prize-giving events	-
1.13	Undertake family planning awareness	Conduct population, health and environment (PHE) publicity and awareness	AET/NCPD	Annually	Number of publicity and awareness events	NCPD guidelines
1.14	Ensure that all development activities in the ecosystem are subjected to ESIA before the approval of plans	Create a position for Environment Officer at AET	AET/County Physical Planner/ County Environment Officer Kajiado	Annually	Number of ESIA's and EAs in which comments are submitted to NEMA	EMCA/AEMP
1.15	Develop an integrated Water Abstraction Plan (WAP) for the Tsavo River Basin	Monitor the Tsavo WAP within each of the sub- catchments in the Amboseli Ecosystem	WRMA/AET/AWF/ SFS/WRUAs	-	Sub catchment water abstraction reports	Water Act (2002)
1.16	Support the existing WRUAs in the Amboseli Ecosystem to implement their SCMPs	Capacity building for the for the following WRUAs whose SCMPs are already active:- 1) Nalepo WRUA (Rombo Sub catchment including Ngarelen-Olchoro springs) SCMP 2010-2014 2) Ilkisonko WRUA (Kimana/Tikondo	WRMA/AET/AWF/SF S/WRUAs	Annually	SCMP implementation reports	Water Act (2002)

		sub catchment (SCMP 2010-2014 3) Osoit-Entara WRUA (Osoit springs) SCMP 2012-2016 4) Esoit Pus WRUA (Nolturesh Subcatchment and Olpusare springs) SCMP 2012-2016 5) Nolturesh WRUA (Upper Nolturesh subcatchment) SCMP 2012-2016 6) Upper Lumi WRUA (Upper Lumi subcatchment) SCMP 2012-2016				
1.17	Support the new WRUAs in the Amboseli Ecosystem to develop and implement their SCMPs	Capacity building for the for the following new WRUAs:- 1) Amboseli-Elerai-Oloorashi WRUA (Amboseli sub catchment) 2) Kishushe-Mwanda WRUA (Mwanda sub catchment) 3) Rongo WRUA (Wongonyi sub catchment) 4) Mashimoni-Maktau WRUA (Mrugua sub catchment)	WRMA/AET/AWF/SFS/WRUAs	Annually	SCMP implementation reports	Water Act (2002)
1.18	Conduct regular meetings on collaborative enforcement of the wetland use regulations	Conduct training for WRUA members and game scouts	WRMA/AET/NEMA/ATGSA	Annually	Number of trained WRUA members and game scouts	EMCA (Wetland Regulations)
1.19	Educate the Amboseli –Tsavo Game Scout Association on the National Elephant, Rhino, and Lion Conservation Strategies	Conduct training	KWS/AWF/ACC/IFA W/SFS	-	Number of trained game scouts	National Elephant, Rhino, and Lion Conservation Strategies
1.20	Conduct training on the prevention of alien species invasions to the game scouts	Conduct training	NEMA/SFS/ACC/ AWF	-	Number of trained game scouts	GISP guidelines
1.21	Train the Amboseli-Tsavo Game Scout s on fire prevention and fire fighting	Conduct training on fire hazard response	AET/KFS/KWS/Red Cross	Annually	Number of trained game scouts	National Fire Control Guidelines
1.22	Establish an annual award scheme for best practices in Green Energy	Fund raising for prizes	AET	Annually	Number of awards	-

Ref No.	Mitigation measures and alternative options	Recommended management and monitoring action	Institutional responsibility including enforcement co-ordination	Monitoring frequency	Monitoring indicators	Standard/ guidelines
1.23	Gazette all the Community Conservancies and wetlands in the Amboseli Ecosystem	Gazette community conservancies and wetlands	Kajiado County Government Government/AET/ AWF	-	Number of gazetted conservancies and wetlands	-
1.24	Enforce a policy of no-discrimination for people living with HIV/AIDS	Conduct HIV/AIDS publicity and awareness campaigns	Min. of Health/AET	-	Number of publicity and awareness events	National Aids Control Guidelines
2. Tourism Development & Management Programme						
2.1	Undertake pre-project ESIA s and regular EAs for the proposed Visitor Centre	Conduct ESIA s & EAs	AET	-	ESMP	EMCA (1999)
2.2	Undertake pre-project ESIA s for the construction of walking trails at Imerishari and Kitirua Hills	Conduct ESIA s & EAs	AET	-	ESMP	EMCA (1999)
2.3	Undertake pre-project ESIA s and subsequent EAs for the construction of Bandas at the Losikutok conservation area in Mbirikani Group Ranch	Conduct ESIA s & EAs	AET	-	ESMP	EMCA (1999)
2.4	Undertake pre-project ESIA and subsequent EAs for the construction of Bandas at tourism Bandas in Ologulului/Olorarashi Group Ranch	Conduct ESIA s & EAs	AET	-	ESMP	EMCA (1999)
2.5	Establish the Amboseli Tourism Stakeholder Forum (ATSF)	Establish the forum	AET/AWF/Big Life Foundation	-	Annual reports	-
2.6	Develop a tourism business code of conduct in the Amboseli Ecosystem	Conduct stakeholder consultations	AET/ ATSF	-	Enforcement reports	-
2.7	Organize regular awards for best practices in water conservation in the tourism sector within the Amboseli ecosystem	Raise funds for prize awards	AET/AWF	Annually	Number of awards	-
Ref	Mitigation measures and alternative	Recommended management and	Institutional	Monitoring	Monitoring indicators	Standard/

No.	options	monitoring action	responsibility including enforcement co-ordination	frequency		guidelines
2.8	Ensure climate change adaptation for all the new tourism establishments in the Amboseli Ecosystem	Conduct awareness campaigns	AET/ Amboseli Tourism Stakeholder Forum	-	Number of training activities	-
2.9	Ensure environmental sustainability for all the new tourism establishments in the Amboseli Ecosystem by supporting natural lighting in buildings, use of water saving devices, heat retaining technologies and use of resource saving signage	Conduct awareness campaigns	AET/ Amboseli Tourism Stakeholder Forum	-	Number of training activities	-
2.10	Establish an scheme for Best Environmental Practice award for hotels, lodges and camp sites	Raise funds for prize awards	AET/ Amboseli Tourism Stakeholder Forum/AWF	Annually	Number of awards	-
2.11	Conduct environmental CPR education and awareness in for tour investors within the Amboseli Ecosystem	Conduct training	AET/ Amboseli Tourism Stakeholder Forum/ NEMA / Kenya Private Sector Alliance (KPSA) and other relevant stakeholders	Annually	Number of training activities	-
2.12	Promote environmental CSR activities in the Amboseli Ecosystem for greater partnership between tour investors and local communities	Establish an Amboseli Private Sector CSR Forum	AET/ATSF	Annually	Annual CSR Fund	-
2.13	Conduct annual inspections on effluent waste water disposal in tourism facilities within the ecosystem	Conduct inspections	County Environment Officer in Kajiado	Annually	Number of inspections	EMCA
2.14	Conduct regular HIV/AIDS awareness campaigns in Amboseli National Park, Isinet, Namelok and Kimana	Awareness campaigns	AET/ Loitokitok MOH/National AIDS Control Council	Annually	Number of awareness campaigns	National HIV/AIDS Control Guidelines

Ref No.	Mitigation measures and alternative options	Recommended management and monitoring action	Institutional responsibility including enforcement co-ordination	Monitoring frequency	Monitoring indicators	Standard/ guidelines
2.15	Ensure all the tourism investments are compliant with national environmental laws and regulations including undertaking ESIA's and EAs and complying with environmental best practices	Regular inspections	AET in collaboration with NEMA County Environment Officer in Kajiado County	Annually	Number of inspections	EMCA
2.16	Engage tourism stakeholders in forums on environmental activities (sustainable tourism exhibitions, marathons and road shows)	Conduct environmental events	AET/NEMA/ATSF	Annually	Number of events	-
2.17	Conduct training on fire safety and emergency response within the tourist establishments	Training activities	AET/ Kenya Red Cross/ Amboseli Tourism Stakeholder Forum	Annually	Number of training activities	Kenya Fire Safety Guidelines (2009)
3. Community Partnership and Education Programme						
3.1	Evaluate the impact of the Namelok and Kimana Fences	Conduct regular EAs	AET	Annually	Number of audits	-
3.2	Undertake pre-project ESIA and conduct regular EA on the livestock water supply points to be established in the dry season grazing zones	Conduct environmental assessment and EAs	AET/Department of Livestock	Annually	Number of assessments and audits	-
3.3	Undertake pre-project ESIA and conduct regular EA on the livestock holding grounds in Loitokitok district	Conduct ESIA's and EAs	AET/Department of Livestock	-	Number of EAs	-
3.4	Undertake a project feasibility study constructing slaughter houses in the Amboseli Ecosystem	Feasibility study	AET/Department of Livestock	-	Feasibility report	-

Ref No.	Mitigation measures and alternative options	Recommended management and monitoring action	Institutional responsibility including enforcement co-ordination	Monitoring frequency	Monitoring indicators	Standard/ guidelines
3.5	Undertake pre-project ESIA and conduct regular EA for the establishment of a livestock Disease Free Zone (DFZ)	Conduct ESIA as EAs	AET/Department of Livestock	Annually	Number of EAs	-
3.6	Develop standards, accreditation and grading of tourist facilities in the Amboseli Ecosystem	Develop standards	AET/Amboseli Tourism Stakeholder Forum/ Eco-tourism Society of Kenya (ESOK)/ OIKejuado Tourism Development Office	-	-	-
3.7	Evaluate all the ESIA in the Amboseli Ecosystem and recommends full integration with the trans-boundary requirements	ESIA evaluations	AET/NEMA County Environment Officer (CEO) in Kajiado	Annually	Number of evaluated ESIA	EMCA
3.8	Double the number of institutional meteorological stations in the ecosystem	Installation of additional weather stations	AET/KMD/KWS	Annually	Number of operations weather stations	KMD guidelines
3.9	Promote the use of Green Energy for business investors and other high energy consuming businesses in the ecosystem	Education and awareness campaigns	AET/Kajiado County NEMA Office	Annually	Number of business investments	-
3.10	Gazettement of critical wetlands in Amboseli Ecosystem	Advocacy	AET/Kenya Wetlands Working Group/ AWF/ACC	Annually	Number of gazetted wetlands	EMCA
3.11	Promote PES in Amboseli Ecosystem	Training and advocacy	AET/ AWF/ Kenya Community Conservancy Association/ NEMA County Office in Kajiado	Annually	Number of training and advocacy activities	-

Ref No.	Mitigation measures and alternative options	Recommended management and monitoring action	Institutional responsibility including enforcement co-ordination	Monitoring frequency	Monitoring indicators	Standard/ guidelines
3.12	Establish the proposed Resource Centre at Noonkotiak	Fund raising for the Resource Centre	AET	-	-	-
3.13	Map out important wetlands in the ecosystem and gazette them at county level	Wetland mapping and gazettelement	AET//NEMA Kajiado/WRMA	Annually	Number of wetlands	-
3.14	Support CBOs in Loitokitok area to establish tree nurseries	Establish tree nurseries	AET	Annually	Number of seedlings	
3.15	Encourage tourist lodges and camps should employ at least 10% of their workforce from the local women	Negotiations with the investors	AET	Annually	Number of local women employed	Employment Act
3.16	Undertake capacity building on conflict early warning and early response	Training on conflict resolution	AET	Annually	Number of training activities	-
3.17	Conduct training on the prevention of the spread of alien species invasions	Training of game scouts and WRUAs	AET/AWF/ACC/SFS	Annually	Number of trained game scouts and WRUA members	-
3.18	Ensure that infrastructure development in the Amboseli Ecosystem is climate-proof	Awareness creation	AET/County Public Works Office to	Annually	Number of awareness campaigns	-
4. Security programme						
4.1	Spell out a clear mandate for the security agents ensuring that they work in close collaboration with local administrators and community leaders	Awareness campaigns	AET/KWS	Annually	Number of security agents	-
4.2	Appointment and supervision by Honorary wardens	Develop appointment criteria	KWS/AWF/ACC/ IFAW	Annually	Number of Honorary Wardens	Wildlife Act
4.3	Community participation in the implementation of joint security trans-boundary initiatives through their local and village leaders	Strengthening the game scout programme	KWS/ATGRCA/ Game Scout Association/ Big Life	Annually	Number of new game scouts	Wildlife Act

Ref No.	Mitigation measures and alternative options	Recommended management and monitoring action	Institutional responsibility including enforcement co-ordination	Monitoring frequency	Monitoring indicators	Standard/ guidelines
4.4	Streamline game scout services to ensure that group ranches enjoy game scout services for free but conservancies are charged a fee	Develop game scout program regulations	KWS/ATGRCA/ Game Scout Association/ Big Life/Kenya Community Conservancy Association	Annually	Number of group ranches and conservancies in the program	Wildlife Act
4.5	Develop and publicize a clear land use and zoning scheme in the ecosystem to minimize conflicting land uses and devaluation of the tourism products	Develop the zoning scheme	AET/AWF/ACC/SFS	-	Number of conflicts	AEMP
4.6	Gazette neighboring areas around Amboseli National Park as a buffer zone through a negotiated agreement with the group ranches	Demarcate buffer zone and undertake negotiations	AET/KWS	-	Area of gazetted buffer zone	AEMP
4.7	Strengthen and formalize the community traditional institutions for collaborative actions	Identify suitable community traditional institutions	AET	-	Number of meetings	-
5. Ecosystem Operations Programme						
5.1	Consider investing in an incinerator at the health clinic in Amboseli National Park	Seek funding for incinerator	KWS	-	-	NEMA incinerator regulations
5.2	Ensure that proposed KWS school in ANP should operate from the former KWS canteen on a temporary basis and any further developments of facilities should be in an alternative site that is secure and has sufficient space for future expansion	Feasibility study	KWS/Department of Education	-	Feasibility report	Ministry of Education

Ref No.	Mitigation measures and alternative options	Recommended management and monitoring action	Institutional responsibility including enforcement co-ordination	Monitoring frequency	Monitoring indicators	Standard/ guidelines
5.3	Relocate all future KWS offices and staff residences outside the park and in close proximity to other social infrastructure in order to reduce the operation footprint	Strategic planning	KWS	-	Strategic plan	-
5.4	The tourist access roads outside the park should be designed to have barriers manned by game scouts	Strategic planning	KWS	-	Strategic plan	-
5.5	Develop solar farms for supplying the conservation and tourism facilities with green renewable energy	Strategic planning	KWS	-	Strategic plan	-
5.6	Construct non-permanent water pans inside the park to promote the restoration of degraded areas	Feasibility study	KWS	-	Feasibility report	-
5.7	Ensure that the KWS water points at the gates are restricted to KWS use in order to prevent development in such areas	Strategic planning	KWS	-	Strategic plan	-
5.8	Zoning of the Kitirua area as a zone for high end tourism with restriction to mass tourism so as to reduce the visitor impacts and retain it as a buffer zone	Strategic planning	KWS/IFAW/AWF	-	Strategic plan	-
5.9	Establish a KWS conservation fund to support land lease in the conservancies and also support community water supply	Strategic planning	KWS/AET/Kenya Community Conservancy Association	-	Strategic plan	-
5.10	Mainstream climate change mitigation in all infrastructure designs for KWS facilities in the ANP	Awareness creation	KWS	Annually	Number of awareness consultations	-
5.11	Conduct a baseline on hazard and disaster vulnerability mapping in the AE	Baseline survey	KWS	-	Environmental hazard map	-

Ref No.	Mitigation measures and alternative options	Recommended management and monitoring action	Institutional responsibility including enforcement co-ordination	Monitoring frequency	Monitoring indicators	Standard/ guidelines
5.12	Mainstream Disaster Risk Reduction in all development work and ensure that every tourism facility in the AE has a disaster preparedness strategy	Capacity building	KWS	-	ANP disaster management strategy	-
5.13	Create incentives for adoption of green energy in all conservation and tourism facilities	Seek funding for incentive program	KWS	-	Number of incentives	-
5.14	Conduct annual energy audits as part of the annual environmental Audits for facilities and the reports copied to AET	Conduct energy audits	KWS/AET	Annually	Number of audits	Energy Act
5.15	Advocate for the establishment of an Amboseli-Kilimanjaro trans boundary ecosystems committee within the EAC for addressing trans-boundary ecosystem operational issues	Develop a concept note	KWS/EAC Coordinating Office in Namanga	-	Transboundary framework	-
5.16	Re-establish links with AfriMAB and establish a joint research fund and research protocol in the AE under the park management committee	Share reports	KWS/AET	Annually	Number of UNESCO-MAB and AfriMAB activities	Seville Strategy
5.17	Host UNESCO Biosphere Reserves field days to share best practices and information with stakeholders	Organize field days	KWS/AET/AfriMAB/ National Commission for UNESCO	Annually	Number of field days	Seville Strategy
5.18	Organize exchange visits between Amboseli and other Biosphere Reserves in Kenya	Organize exchange visits	KWS/AET/AfriMAB/ National Commission for UNESCO	Annually	Number of exchange visits	Seville Strategy

Ref No.	Mitigation measures and alternative options	Recommended management and monitoring action	Institutional responsibility including enforcement co-ordination	Monitoring frequency	Monitoring indicators	Standard/ guidelines
5.19	Establish a UNESCO BR training centre in Loitokitok for the AE staff, community and stakeholders	Strategic planning	KWS/AET	Annually	Number of UNESCO-MAB and AfriMAB activities	Seville Strategy
5.20	Train game scouts on data collection and reporting	Capacity building	KWS/AET	Annually	New records in ecosystem database	-
5.21	Support economic valuation of nature goods and services in the AE through joint research by conservation NGOs	Capacity building	KWS/AET/ACC/ AWF	Annually	Number of valued environmental goods and services	-
5.22	Enact county by laws to ensure that all new buildings and facilities should have storage tanks with capacity to last them three months or more	Formulate by-laws	AET/Kajiado County Government	Annually	Number of storage tanks	-
5.23	Establish a sustainability fund for Amboseli Ecosystem and invite the private sector to donate and be part of the fund management by creating a private sector position in the AET Board	Strategic planning	AET	Annually	Level of funding	-

9 CONCLUSION AND RECOMMENDATIONS

9.1: CONCLUSION

The SEA for the Amboseli Ecosystem Management Plan arrived at the following conclusions based on the findings of the baseline situation analysis, PPP analysis, plan impact analysis and stakeholder consultations:-

- a) The AEMP (2008-2018) is a good and commendable plan with minimal negative environmental impacts which account for only about 10.8% of the plan activities according to the First Year Activity Plan (2008-2018). Some of the outstanding issues concerning the plan include the following:- a) It is well organized, well-illustrated and easy to follow, b) it has adopted the ecosystem approach as advocated by a wide range of MEAs including the CBD, Ramsar World Heritage Convention and CMS. This approach is also advocated by Vision 2030, and the Draft Environment Policy (2012), c) the plan was formulated through the participatory approach which is compliant with the spirit of the Constitution of Kenya and the Draft Environment Policy (2012).
- b) The Protected Area Planning Framework (PAPF) which was used in the formulation of AEMP may not have fully captured all the ecosystem-wide issues in the region especially the socio-economic aspects outside the Amboseli National Park. The PAPF also appears to be weak in terms of embracing and accommodating relevant environmental obligations in the National PPPs.
- c) The findings indicated that the management plan has not adequately embraced important trans-boundary frameworks which Kenya has ratified and is expected to domesticate as a member of the EAC. Some of the affected trans-boundary frameworks include the EAC Climate Change Policy (EACCCP, 2011), EAC Protocol on Environment and Natural Resources and the EAC Trans boundary Ecosystems Management Bill, 2010. Apart from weakening the opportunities for better regional collaboration in trans-boundary environmental management including regional environmental diplomacy and cooperation, this might also affect the trans-boundary activities which some stakeholders such as AWF, IFAW and ACC are advocating and implementing in the ecosystem.
- d) The management plan has not adequately embraced some relevant international MEAs which Kenya has ratified and is expected to domesticate as a member of the global community of nations. Some of the affected frameworks include the Seville Strategy for the management of Biosphere Reserves, the Madrid Action Plan (2008-2013), and the United Nations Framework on Combating Climate Change, United Nations Convention to Combat Desertification. The inability of the AEMP to effectively domesticate the Seville Strategy for the management of Biosphere Reserves means that the Amboseli National Park might not participate well in the activities associated with UNESCO MAB Programme on Biosphere Reserves either through the Secretariat office in Europe but also through AfriMAB, the regional chapter in Africa.
- e) The following conclusions were made with regard to the capacity of the management plan in implementing important environmental obligations as reflected in national policies, legal frameworks and strategic plans:-
 - i. Although the plan has also attempted to embrace the environmental obligations in key national environmental policies, the following policies are not featuring adequately in the plan:
 - Sessional Paper No. 6 of 1999 on Environment and Development
 - Draft Environment Policy (2012)
 - National Land Policy (2009)
 - Draft National Wildlife Policy (2011)
 - National Forest Policy (2005)
 - National Tourism Policy (2007)
 - National Gender and Development Policy (2000),
 - Draft National Policy on Peace Building and Conflict Management (2006)
 - Draft National Policy on Wetlands Conservation and Management (2013)

- National Gender and Development Policy, and National Policy for Disaster Management (2009).
 - National Policy for the Sustainable Development of Arid and Semi-Arid Lands of Kenya (2012)
- ii. The plan, on the overall, has adequately considered the expected obligations in the Environmental Management and Coordination Act (EMCA, 1999) with only a small margin of non-integration at approximately 27%. However, other thematic legal frameworks such as the Water Act, Cap 372 (2002) has almost 100% non-integration while the Forest Act (2005) has 66.7% non-integration. The inability by the AEMP to domesticate the Water Act (2002) is unfortunate because water issues are a key challenge in the ecosystem.
 - iii. The findings showed that the following three strategic plans have not been adequately considered in the management plan:-
 - Kenya Vision 2030,
 - National Biodiversity Strategy and Action Plan (2000)
 - National Climate Change Response Strategy (2009)
 - National Environment Action Plan (2009-2013).

The poor visibility of the Vision 2030 in the management plan is not good because the plan is expected to help in the implementation of the national strategy by supporting the realization of its goals at the local and regional levels.
- f) The management plan is characterized by weak institutional collaboration because many of the stakeholders who were involved at the planning stage are not adequately featuring in the plan implementation framework which is structured within the Amboseli Ecosystem Trust (AET). This is mostly common with regard to the government offices which are operating within the ecosystem. Unless the relevant government institutions are accommodated in the plan implementation structure, this could affect the long-term outcomes of the plan as currently envisioned. It would be useful to expand the Implementation Structure (AET) to include membership of other key stakeholders such as:- trans-boundary stakeholders where possible, representatives of County and National Governments and Private Sector Actors especially those in the tourism sector.
 - g) The findings identified indicated the following as the areas currently with a potential for high environmental footprint as follows:-
 - Amboseli National Park
 - South Eastern Border of Amboseli National Park
 - Kimana area
 - h) The findings also indicated that the proposed tarmarking of the Namanga Meshanani-Amboseli Road as well as the proposed establishment of the Amboseli Town to the north of Amboseli National Park are likely to have far-reaching implications on the environmental integrity of the Amboseli Ecosystem and should be re-evaluated.

9.2: RECOMMENDATION

The following recommendations were made based on the findings of the SEA:-

- a) The AEMP should be gazetted as-is but together with the recommendations of the SEA (annexed). The SEA recommendations should be incorporated in the plan during the plan review.
- b) The Implementation Structure (AET) should be expanded to include membership of the following stakeholders;
 - Trans-boundary stakeholders
 - Representatives of County and Central Governments
 - Private Sector Actors
 - Development Non-State Actors
- c) All other subsidiary local area management plans such as the Olgulului-Ololarashi Conservation and Development Plan (2011-2021) and the Kimana Integrated Wetland Management Plan (2008-2013) should be gazetted together with the AEMP in order to strengthen it by ensuring sufficient grass root

- domestication. In any cases where other local area plans are contradicting the AEMP, the later shall prevail.
- d) No further tourism investment should be allowed in the following areas due to the current high potential level of environmental impact:
 - i. Block 18 – Amboseli National Park (See Figures 6-1)
 - This consists of the tourist facilities inside the Amboseli National Park with a density of 7 facilities per 10x10km grid.
 - ii. Blocks 7 & 17 – South Eastern Border of Amboseli National Park (See Figures 6-1)
 - This consists of the tourist facilities just next to the National Park with a density of 3-4 facilities per 10x10km grid.
 - iii. Block 6 - Kimana area (See Figures 6-1)
 - This consists of the tourist facilities in the former Kimana Wildlife Sanctuary area with a density of 2-3 facilities per 10x10km grid. These facilities should be rehabilitated.
 - e) Future tourism investment should only be undertaken in the other parts of the ecosystem outside the national park especially within the various conservancies in the area notably Kitirua Conservancy and Kitenden Wildlife Corridor (KWC), Kilitome Conservancy in Kimana, Leng'arunyani Conservancy, Losikutok, The Chyulu West Conservancy, Motikanju Conservancy, Osupuko Conservancy, Elerai Conservancy, Rombo Emmpului Conservancy, Oltiyani Conservancy and Eselenkei Conservation Area.
 - f) Development of tourist facilities should only be carried out within wildlife conservancies established in accordance with the wildlife Act, 2013 but such conservancies should not be less than 2500 acres in accordance with the Limits of Acceptable Use (LAU) Principle.
 - g) A specialized task force should be established to review the ESIA report for the Namanga Meshanani-Amboseli Road with the aim of:- a) considering the option of modifying the route so that the road connects to the Emali-Loitokitok Road at Makutano. The task force should also recommend suitable options for ensuring that the project adheres to the principles of eco-road construction especially with regard to safe wildlife movements.
 - h) The proposal for the establishment of the Amboseli Town to the north of Amboseli National Park should be reconsidered because it will have a wide range of environmental drawbacks such as :- a) Intensifying the water problem in the ecosystem, b) destroying a critical dry season livestock grazing area in the Olgulului-Ololarashi Group Ranch (OGR), c) destroying a critical dry season wildlife dispersal area for the Amboseli National Park, d) escalating the problem of human-wildlife conflicts, e) violating the key environmental goal of Vision 2030 of “Securing the Wildlife Corridors and Migratory Routes”, and f) violating the status of Amboseli as an international Biosphere Reserve (BR) under the UNESCO Man and Biosphere program (MAB) which makes it a globally significant. Previously, other Sites of International Importance in Kenya such as Lake Naivasha which is a Ramsar Site and Mount Kenya which is a BR as well as a World Heritage Site have almost been blacklisted due to unsustainable development which is not good for the Kenyan image internationally.
 - i) A review of the PAPF should be undertaken in order to ensure full accommodation (in future planning) of the needs of ecosystem-wide planning especially for the protected areas with important ecological, hydrological and socio-economic linkages with the surrounding environments.

REFERENCES

- African Wildlife Foundation (2013): Community payment for ecosystem services in the Amboseli ecosystem: Leasing land for livelihoods and wildlife. AWF Technical paper Series
- African Union (1968): African Convention on the Conservation of Nature and Natural Resources
- CBD Secretariat (1992): Convention on Biological Diversity, Montreal
- East Africa Community (1999): Protocol on Environment and Natural Resources Management.
- East Africa Community (2010): The East African Community Trans-boundary Ecosystems Management Bill 2010.
- East Africa Community (2011): EAC Climate Change Policy (EACCCP)
- Government of Kenya (GoK) (1926): The Crop Production and Livestock Act: Cap 321
- GoK (1955): The Agriculture Act: Cap. 318
- GoK (1985): The Wildlife (Conservation and Management) Act: Cap 376 revised 2009.
- GoK (1986): Public Health Act: Cap. 242
- GoK, (1995): National Tourism Master Plan.
- GoK (1997): The Sessional Paper No. 4 of 1997 AIDS in Kenya.
- GoK (1998): The Physical Planning Act: Cap 286 Of 1998
- GoK (1999b): Environmental Management and Coordination Act (EMCA) No. 8 of 1999, Government Press, Nairobi.
- GoK (1999d): Sessional Paper No. 6 of 1999 on Environment and Development.
- GoK (2000): National Gender and Development Policy, Ministry of Gender Sports Culture and Social Services.
- GoK (2000a): The Kenya National Biodiversity Strategy and Action Plan, Ministry of Environment and Natural Resources
- GoK (2002): The Water Act, 2002: Cap 372 of 2002
- GoK (2005a): The Forests Act, 2005. Nairobi: Government Press.
- GoK (2005b): Forest Policy, *Sessional* Paper No. 9 of 2005.
- GoK (2005c): Crop Production And Livestock Act Cap 321
- GoK (2006a): Draft National Policy on Peace Building and Conflict Management.

GoK (2006b): The Energy Act No. 12 of 2006.

GoK (2007a): National Environmental Sanitation and Hygiene Policy, Ministry of Health.

GoK (2007b): National Tourism Policy, Ministry of Tourism and Wildlife.

GoK (2008a): Nairobi Metro 2030. A world class African Metropolis, Ministry of Nairobi Metropolitan Development.

GoK (2008b): Vision 2030: A Globally Competitive and Prosperous Kenya, Ministry of State for Planning, National Development and Vision 2030.

GoK (2009a): EMCA (Wetlands, River Banks, Lake Shores and Sea Shore Management Regulations), 2009. Legal Notice No. 19

GoK (2009b): National Environment Action Plan Framework 2009-2013, National Environment Management Authority.

GoK (2009c): The Forest (Charcoal) Rules, 2009, Legal Notice No. 186.

GoK (2009d): Sessional Paper No. 3 of 2009 on National Land Policy.

GoK (2009e): Draft National Policy for Disaster Management, Ministry of State for Special Programmes.

GoK (2009f): Community Based Tourism Framework

GoK (2009g): National Environment Action Plan (NEAP) 2009 – 2013

GoK (2010a): National Horticulture Policy, Ministry of Agriculture.

GoK (2010b): National Climate Change Response Strategy, Ministry of Environment & Mineral Resources.

GoK (2010c): The Constitution of Kenya, 2010.

GoK (2010d): Agricultural Sector Development Strategy 2010–2020.

GoK (2011): Draft Wildlife Policy, Ministry of forestry and Wildlife.

GoK (2012a): Draft of the National Water Policy.

GoK (2012b): Master Plan for the Conservation and Sustainable Management of Water Catchment Areas in Kenya, Ministry of Environment and Mineral Resources.

GoK (2012c): National Environment Policy, Draft4, Ministry of Environment, Water and Natural Resources.

GoK (2012d): Sessional Paper No. 8 of 2012 on National Policy for the Sustainable Development of Northern Kenya and other Arid Lands.

GoK (2012e): The Tourism Act, No. 28 of 2012.

GoK, (2012f): National Water Policy

GoK (2013): Draft National Wetlands Conservation and Management Policy, Ministry of Environment Water and Natural Resources.

GoK (2013b): Wildlife Conservation and Management Bill, 2013.

Kenya Wildlife Service (2007): Conservation and Management Strategy for the Black Rhino (*Diceros bicornis nichaeli*) and Management Guidelines for the White Rhino (*Ceratotherium simum simum*) in Kenya (2007 - 2011).

KWS (2007): Protected Areas Planning Framework. Planning Manual, 2nd edition. KWS Planning Unit.

KWS (2008): Amboseli Ecosystem Management Plan 2008-2018.

KWS (2010): National conservation and management strategy for lion and spotted hyena in Kenya (2009 – 2014).

KWS (2012): Conservation and Management Strategy for the Elephant in Kenya 2012-2021.

Kenya Wildlife Trust (2011): Guidelines for conservancy-based tourism development in Kenya.

NEMA (2012): National Guidelines for Strategic Environmental Assessment in Kenya.

Okello, M . M., Buthmann, E., Mapinu, B., & Kahi, H. (2011) Community Opinions on Wildlife, Resource Use and Livelihood. Competition in Kimana Group Ranch Near Amboseli, Kenya. *The Open Conservation Biology Journal*, 5, 1-12 1 1874-8392/11.

United Nations (1971): Ramsar Convention, Gland.

United Nations (1972): World Heritage Convention, Paris.

United Nations (1979): United Nations Convention on Migratory Species, Bonn.

United Nations (1992): United Nations Framework on Combating Climate Change, New York.

United Nations (1994): United Nations Convention to Combat Desertification, Bonn.

UNESCO (2003): The Seville Strategy on Biosphere Reserves. Gland.

UNESCO (2008a): Madrid Action Plan (2008-2013) for Biosphere Reserves, Gland.

UNESCO (2008b): Madrid Action Plan for Biosphere Reserves (2008–2013).

UNESCO (2009): World Heritage Convention. Case Studies on Climate change and World Heritage (Mt. Kilimanjaro Heritage Site).

APPENDICES

Appendix 1 -Summary of PPP analysis and integration status for the Amboseli Ecosystem Management Plan (2008-2018)

1.1: Trans-boundary Frameworks

Name of framework	Relevant obligations for Amboseli Management Plan	Integration/Non-integration				
		Ecological Management Programme	Tourism Development & Management Programme	Community Partnership & Education Programme	Security Programme	Ecosystem Management Programme
1. EAC Protocol on Environment and Natural Resources	Article 9 - Management of trans boundary resources a) Developing mechanisms for ensuring sustainable utilization of Trans boundary ecosystems	✓	✓	✓	X	✓
	Article 10 - Biological diversity (a) Collaboration in the conservation of trans boundary biological diversity	✓	X	✓	✓	✓
	Article 12 - Management of wildlife resources 2.(a) Assess and control activities which may significantly affect the conservation and sustainable use of wildlife and minimize negative impacts to wildlife resources	✓	X	✓	✓	✓
	(b) Manage wildlife and wildlife habitats to ensure the maintenance of viable wildlife populations	✓	X	✓	✓	✓
	(f) Promote community-based wildlife management and incorporate indigenous knowledge	X	X	X	X	✓
	(g) Raise public awareness on issues of conservation and sustainable use of wildlife	✓	X	✓	X	X
	5. Supporting formulation of agreements or other arrangements, in the management of trans-boundary wildlife ecosystems and protected areas	X	X	✓	✓	X
	6. Cooperating in promoting management of shared wildlife resources and wildlife habitats across international borders	✓	X	X	✓	X
	7. Cooperating in promoting economic and social incentives in the conservation and sustainable use of wildlife resources	X	X	✓	X	✓
	Article 20 - Management of mountain ecosystems	X	X	X	✓	X

	3. (b) Promoting regional cooperation and exchange of data and information on trans-boundary mountain ecosystems					
	Article 26 - Tourism development 2. (f) Supporting the establishment of regional quality and standards control mechanism harmonizing the standards for registration, accreditation and grading of tourism service providers and tourism facilities;	X	✓	X	X	X
	(g) Supporting the development of common and coordinated marketing and promotion strategies, action plans, and implementation programmes for promoting both intra-regional tourism	X	X	X	X	X
	(i) Developing a code of conduct for tourists and tour operators	X	X	X	X	X
	Article 31 - Environmental impact assessment and audits 2. Supporting trans boundary EIAs for trans-boundary activities and projects that may have significant adverse environmental impacts.	X	✓	X	X	X
2. EAC Climate Change Policy (EACCCP) – 2011	Section 3.1.3 Adaptation policy statements and priority actions 3.1.3.1 Vulnerability reduction and building economic and social resilience (ii) Promoting diversification of economies to reduce overdependence on climate-sensitive sectors	X	X	X	X	X
	(iii) Promoting alternative livelihoods systems	✓	X	✓	X	X
	(iv) Enhancing adaptive capacities of communities and fragile ecosystems	X	X	X	X	X
	v) Promoting social protection as a tool for disaster risk reduction and climate change adaptation	X	X	X	X	X
	3.1.3.3 Mainstreaming climate change adaptation in national development planning water resources (iii) Improving water security by promoting investment in water storage facilities and technologies	✓	X	X	X	✓
	(iv) Promoting rain water harvesting, protection	✓	X	X	X	X

	of water wells and springs, and other water sources					
	Relevant sectoral obligations:	✓	X	✓	✓	X
	Wildlife (ii) Establishing, promoting, and/or protecting wildlife migration corridors					
	Tourism (ii) Developing and diversifying tourism products which are not very sensitive to climate change	X	✓	✓	X	X
	Infrastructure (i) Promoting climate change integration in all planning and design of infrastructure	X	X	X	X	X
	(ii) Promoting community based approach to disaster risk reduction and community based adaptation	X	X	X	X	X
	(iii) Promoting climatic risk assessment and monitoring through vulnerability assessment, risk and hazard mapping	X	X	X	X	X
	(iv) Enhancing disaster risk preparedness through inter alia: production, acquisition and dissemination of weather and climate information services for improved early warning systems (EWS)	X	X	X	X	X
	v) Promoting management of cross-border natural resource based conflict as result of stress on water and pasture for pastoral communities	X	X	✓	✓	X
	(vi) Promoting the Disaster Risk Reduction (DRR) concept through the five priorities areas of the Hyogo Framework for Action (HFA),	X	X	X	X	X
	Energy (ii) Promoting of renewable energy technologies (solar power, wind energy)	X	X	X	X	X
	vi) Enhance energy efficiency and saving	X	X	X	X	X
	3.3 Climate change research and observation (monitoring, detection, attribution and prediction) (i) Support modernization of meteorological infrastructure for climate change monitoring and	X	X	X	X	X

	detection					
3. The East African Community Trans boundary Ecosystems Management Bill, 2010	Overall goal To provide for the management and regulation of trans boundary ecosystems of the East African Community, to establish a commission for the management of trans boundary ecosystems and to provide for other related matters.	✓	X	X	X	X
	3. Objectives of the Act (c) Maintaining stable functioning relations between the living and non-living parts of the environment in trans-boundary ecosystems through preserving biological diversity, and respecting the principle of optimum sustainable yield in the use of natural resources in those ecosystems;	X	X	X	X	X
	(d) Reclaiming lost trans-boundary ecosystems and where possible reverse the degradation of natural resources those ecosystems	X	X	✓	X	X
	(h) Ensuring environmental awareness on trans-boundary	X	X	✓	X	X
	(j) Promoting international cooperation between the East African Community and other regional organizations in the management of trans-boundary ecosystems	X	X	✓	X	X
	Schedule 2 - Identified and designated continuous trans-boundary ecosystems (v) - Serengeti-Mara, Kilimanjaro-Longido, Tsavo West-Mkomazi/Umba Ecosystems	✓	X	X	X	X

1.2:

International Frameworks

Name of framework	Relevant obligations for Amboseli Management Plan	Ecological Management Programme	Tourism Development & Management Programme	Community Partnership & Education Programme	Security Programme	Ecosystem Management Programme
1. Seville Strategy for the management of Biosphere Reserves	Goal III: Research, monitoring, education and training Objective III(1): Improve knowledge of the interactions between humans and the biosphere 1. Using the World Network of Biosphere Reserve (WNBR) for cooperative research programmes	✓	X	X	X	X
	2. Encouraging interactions between the WNBR	✓	X	X	✓	X
	Objective III(2): Monitoring activities a) Encouraging and develop linkages with other BRs in the country and the world	✓	X	✓	X	X
	Objective III(3): Education and public awareness a) Exchanging of experience and information between BRs	✓	✓	X	X	X
	Objective III(4): Staff training 1. Using WNBR to support local training 2. Identifying representative BRs to serve as regional training centres	X	✓	X	✓	X
2. Madrid Action Plan (2008-2013) – 60 actions and 34 targets	Action 52: Supporting the BR to play a more visible role in improving access to information and new ways to communicate knowledge to non-scientific target groups:	✓	X	✓	X	✓
	Target 23 - Launching specific UN-DESD programmes in BRs with a number of associated schools	X	X	X	X	X
3. Convention on Biological Diversity (CBD)	Article 8 - In-situ conservation (d) Promoting protection of ecosystems, natural habitats and maintenance of viable populations of species in natural surroundings	✓	X	✓	✓	✓
	(j) Respecting, preserving and maintaining knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application	X	✓	✓	X	X

	Article 13 - Public education and awareness (a) Promoting and encouraging understanding of the importance of and the measures required for, the conservation of biological diversity, as well as its propagation through and	X	X	✓	X	X
	b) Cooperating, as appropriate, with other States and international organizations in developing educational and public awareness programmes, with respect to conservation and sustainable use of biological diversity	X	X	✓	X	X
4. United Nations Framework on Combating Climate Change	Article 6: Education, training and public awareness A(i) The development and implementation of educational and public awareness programmes on climate change and its effects	X	X	X	✓	X
5. United Nations Convention to Combat Desertification	Article 4: General obligations 2(c) Integrating strategies for poverty eradication into efforts to combat desertification and mitigate the effects of drought	✓	X	X	X	X
	Article 5: Obligations for affected countries b) Establishing strategies and priorities to combat desertification and mitigate the effects of drought	✓	X	X	X	X
	(d) Promoting awareness and facilitate the participation of local populations, particularly women and youth, with the support of non-governmental organizations, in efforts to combat desertification and mitigate the effects of drought	✓	X	X	X	X
	Article 10: National action programmes 2(d) Enhancing national climatological, meteorological and hydrological capabilities and the means to provide for drought early warning	✓	X	X	X	X
	3(a) Establishment and/or strengthening, as appropriate, of early warning systems, including local and national facilities and joint systems at the sub regional and regional levels, and mechanisms for assisting environmentally displaced persons	X	X	X	X	X
	(b) Strengthening of drought preparedness and management, including drought contingency plans at the local, national, sub regional and regional levels, which take into consideration seasonal to inter-annual climate prediction	X	X	X	X	X
	(c) Establishment and/or strengthening, as appropriate, of food security systems, including storage and marketing facilities, particularly in rural areas	X	X	✓	X	X

	(d) Establishment of alternative livelihood projects that could provide incomes in drought prone areas	✓	X	X	X	X
	(e) Development of sustainable irrigation programmes for both crops and livestock.	X	X	X	X	X
6. Ramsar Convention	Article 3 a) Formulating and implementing wetland planning so as to promote the conservation of wetlands	✓	X	✓	X	X
7. Convention on Migratory Species (CMS)	Article 5 I) Exchanging of information on substantial threats to the migratory species	✓	X	X	✓	X
	h) Elimination of, to the maximum extent possible, or compensation for activities and obstacles which hinder or impede migration	✓	X	✓	X	X
8. World Heritage Convention – Mt Kilimanjaro World Heritage Site	Article 27 a) Strengthening the appreciation and respect by their peoples of the cultural and natural heritage defined in Articles 1 and 2 of the Convention	X	✓	X	X	X
	b) Keeping the public broadly informed of the dangers threatening this heritage and of the activities carried on in pursuance of this Convention.	X	✓	✓	X	X
9. African Convention on the Conservation of Nature and Natural Resources	Article II - Fundamental Principle 2 (ii) Setting aside areas for the propagation, protection, conservation and management of vegetation and wild animals as well as for the protection of sites, land-spaces or geological formations of particular scientific or aesthetic value, for the benefit and enjoyment of the general public	✓	X	✓	X	X
	3.1 (a) Setting aside for the conservation, management and propagation of wild animal life and the protection and management of its habitat	✓	X	✓	X	X
	2(b) According special protection to those animal and plant species that are threatened with extinction, or which may become so, and to the habitat necessary to their survival	✓	X	X	X	X

1.3:

Policies

Name of framework	Relevant obligations for Amboseli Management Plan	Ecological Management Programme	Tourism Development & Management Programme	Community Partnership & Education Programme	Security Programme	Ecosystem Management Programme
1. The Constitution of Kenya	Article 10 – Supporting participation of the people in the protection of marginalized lands and sustainable development.	✓	X	X	X	✓
	Article 42 – Supporting public involvement in ensuring the rights to a clean and healthy environment.	✓	X	X	X	X

	Article 43 – Supporting public involvement in ensuring the need for every person to have access to clean and safe water in adequate quantities,	✓	X	X	X	X
	Article 60 – Supporting public participation in land management especially within the principles of equitability, efficiency, productivity and sustainable land management practices.	✓	✓	✓	X	X
	Article 69 - Environment and natural resources (1) (a) Ensuring sustainable exploitation, utilization, management and conservation of the environment and natural resources, and ensure the equitable sharing of the accruing benefits	✓	✓	✓	X	✓
	(b) Working towards the achievement and maintaining a tree cover of at least 10% of the land area of Kenya by the year 2030	X	X	X	X	X
	(d) Encouraging public participation in the management, protection and conservation of the environment	✓	✓	✓	X	✓
	(f) Supporting environmental impact assessment, environmental audit and monitoring of the environment	✓	✓	X	X	X
	(g) Eliminating processes and activities that are likely to endanger the environment; and	X	✓	X	X	X
	(h) Utilizing the environment and natural resources for the benefit of the people of Kenya.	✓	✓	X	X	X
	Article 66 – Regulating use of any land ,or any interest or right over any land, in the interest of public health or public planning	✓	X	✓	X	
	Article 185: 22 - Protection of the environment and natural resources with a view to establishing a durable and sustainable system of development	✓	X	✓	X	
2. Sessional Paper No. 6 of 1999 on Environment and Development	Forest Resources • Supporting the increase the total forest area	X	X	X	X	X
	Wildlife Resources • Supporting the involvement of local communities and other users in wildlife conservation and management and developing mechanisms that allow communities to benefit from wildlife earnings	✓	X	✓	X	✓
	Wetlands • Supporting the development of integrated management plans for sustainable and multiple use of wetlands	✓	X	X	X	X
	Rangeland resources • Discouraging inappropriate conversion of ASALs into agriculture	X	X	X	X	X
	• Promoting the integration of wildlife and livestock management	✓	X	✓	X	X
	• Instituting measures to manage livestock within the carrying capacity of the land	✓	X	✓	X	X

	<ul style="list-style-type: none"> Promoting wildlife utilization as an alternative form of livelihood 	X	X	X	X	X
	Land Degradation, Drought and Desertification <ul style="list-style-type: none"> Developing drought and desertification monitoring and early warning systems 	X	X	X	X	✓
	Water resources <ul style="list-style-type: none"> Supporting the provision of water for wildlife livestock and domestic use 	✓	X	✓	X	X
	<ul style="list-style-type: none"> Providing incentives for rain water harvesting 	X	X	X	X	X
	Human settlements <ul style="list-style-type: none"> Regulating urban development to only those areas which are suitable, avoiding ecologically fragile areas 	X	✓	X	X	X
	<ul style="list-style-type: none"> Encouraging Kenyans to have family sizes which are sustainable 	X	X	X	X	
	Other policy goals <ul style="list-style-type: none"> Encouraging sustainable use of resources and ecosystems 	✓	✓	✓	X	✓
	<ul style="list-style-type: none"> Protecting water catchment areas 	✓	X	X	X	X
	<ul style="list-style-type: none"> Adherence to the polluter pays principle 	X	X	X	X	X
	<ul style="list-style-type: none"> Undertaking EIA for all private and public projects 	✓	✓	X	X	X
	<ul style="list-style-type: none"> Increase public awareness on environment 	X	X	✓	X	X
3. Draft Environment Policy (2012)	<ul style="list-style-type: none"> Adopting measures and incentives and disincentives to promote the re-use, recycling and reclamation of re-usable packaging material and combats the pollution of the environment. 	X	X	X	X	X
	<ul style="list-style-type: none"> Supporting establishment of constructed wetlands for waste management 	X	X	X	X	X
	<ul style="list-style-type: none"> Developing an integrated, improved early warning and response systems for climate change and disaster risks 	X	X	X	X	X
	<ul style="list-style-type: none"> Developing and implementing Drought and Desertification Monitoring and Early Warning Systems 	X	X	X	X	X
	<ul style="list-style-type: none"> Encouraging CDM investments for climate change mitigation 	X	X	X	X	X
	<ul style="list-style-type: none"> Encouraging Kenyans to have family sizes which are sustainable. 	X	X	X	X	X
	<ul style="list-style-type: none"> Formulating an innovative strategy to increase forest and tree cover from the current 2% to at least 10% by 2030 	X	X	X	X	X
	<ul style="list-style-type: none"> Promoting and institutionalizing payment for environmental services schemes to support watershed protection initiatives 	X	X	X	X	X
	<ul style="list-style-type: none"> Supporting rehabilitation and restoration of degraded wetlands and forests 	X	X	X	X	X
	<ul style="list-style-type: none"> Promoting the establishment of trans boundary wildlife conservation 	✓	X	X	X	X

	<ul style="list-style-type: none"> Promoting application of sound environmental management tools, in particular strategic environmental assessment, EIA, environmental audits, environmental management systems, risk assessment/management and environmental reporting 	✓	✓	X	X	X
	<ul style="list-style-type: none"> Protecting, conserving, and improving the habitats, corridors, and dispersal areas of wildlife 	✓	X	✓	X	X
	<ul style="list-style-type: none"> Protection and sustainable management of shared/trans boundary resources 	X	X	✓	X	X
	<ul style="list-style-type: none"> Supporting the establishment of community based conservation areas 	✓	✓	✓	✓	X
	<ul style="list-style-type: none"> Working with private sector, NGOs and CBOs to enhance corporate and social responsibility and accountability 	X	X	X	X	X
4. National Land Policy (2009)	3.4.3.2: Ecosystem Management and Conservation Principles	✓	X	✓	X	X
	<ul style="list-style-type: none"> Survey of all critical ecosystems to determine their sustainable land uses 					
	13(b): Identifying, mapping and gazettement critical wildlife migration and dispersal areas and corridors in consultation with the local communities and individual land owners	✓	X	✓	X	X
	13(c): Encouraging the development of wildlife sanctuaries and conservancies and involve local communities and individuals living contiguous to the parks and protected areas in the co-management of such areas	X	X	X	X	X
	13(d): Providing mechanisms for resolving grievances arising from human/wildlife conflicts	✓	X	✓	✓	✓
	Other policy goals:	✓	✓	✓	X	X
	1. Supporting Community land management and dispute resolution					
	2. Promoting incentives for communities and individuals to promote resource conservation	X	✓	✓	X	X
	3. Supporting protection of forests	X	X	X	X	X
	4. Ensuring sustainable utilization and management of land and its resources	✓	✓	X	X	✓
	5. Supporting the implementation of environmental assessments and audits	✓	✓	X	X	X
5. National Water Policy (2012 Draft)	a) Ensuring increased per capita water availability above the international benchmark of 1000 m ³ by 2030	X	X	X	X	✓
	b) Ensuring progressive restoration and protection of ecological systems and biodiversity in strategic water catchments	X	X	X	X	X
	c) Maximizing use of trans-boundary water resources in coordination with other riparian countries	X	X	X	X	✓

	d) Enhancing storm water management and rainwater harvesting	X	X	X	X	X
	f) Enhancing pollution control	✓	X	X	X	✓
	h) Enhancing enforcement of regulation and other IWRM actions	X	X	X	X	X
	i) Improve effluent waters treatment and recycle for use	X	X	X	X	X
	m) Ensuring that wetlands, flood plains with their associated biodiversity are safeguarded	✓	X	X	X	X
	5.4: Ensuring public participation in all areas of water affairs, including right to be informed, representation in boards and water dialogue platforms	X	X	X	X	X
	4.3 (e) Ensuring the establishment of protected areas crucial for water storage	✓	X	X	X	X
	Other policy goals: • Ensuring emergency supply of adequate water to protected areas for wildlife use and recreation	X	X	X	X	X
	• Supporting rain water harvesting	X	X	X	X	✓
6. National Policy for the Sustainable Development of Arid and Semi-Arid Lands of Kenya (2012)	3.4.2 Natural resource management • Promoting low-maintenance water technologies, with an emphasis on water harvesting	X	X	X	X	X
	3.4.5 Livelihood diversification and urban development • Increasing the benefits to communities from tourism through the development of community-owned eco-tourism enterprises or conservancies	X	✓	✓	X	X
	5.2.3.3 Security and the rule of law • Strengthening traditional systems of governance and alternative dispute resolution mechanisms	X	X	X	X	X
	• Applying conflict-sensitive approaches to development	X	X	✓	X	X
	• Putting in place measures to minimize human-wildlife conflict	✓	X	✓	✓	X
	• Developing mechanisms with neighbouring countries which ensures effective management of peace and security	X	X	X	✓	X
	Other policy obligations • Halve, by 2015, the proportion of people without sustainable access to safe drinking water.	X	X	X	X	X
	• Supporting mobile herding systems as a rational, economically viable and efficient use of dry land resources	✓	X	✓	X	✓
	2.0: Wetland conservation and management Policy Statement 1: Ensuring that drainage and reclamation of wetlands is not allowed unless a greater public interest is demonstrated.	✓	X	X	X	X
7. Draft National Policy on Wetlands Conservation and Management	Policy Statement 2: Ensuring that any alteration of a wetland for public interest will be subject to Environmental Impact Assessment (EIA), cost	X	X	X	X	✓

(2013)	benefit analysis, and wide stakeholder consultations					
	Policy Statement 5: Ensuring that uncontrolled burning of wetland biomass will be prohibited	✓	X	X	X	X
	Policy Statement 6: Ensuring that priority will be given to subsistence and environmental needs before considering commercial interests.	X	X	X	X	X
	Policy Statement 7: Ensuring that site-specific participatory Wetland Management Plans are developed to guide the use of wetlands resources	✓	X	X	X	X
	Policy Statement 1: Ensuring that the ownership of natural wetlands is vested in the state while recognizing legitimate rights of users who depend on them for their livelihoods		X	X	X	X
	Policy Statement 2: Ensuring that natural wetlands under private ownership will be subject to regulations		X	X	X	X
	Policy Statement 8: Ensuring that any land resulting from receding of natural wetlands shall continue to remain inalienable state land and be regarded as riparian land and shall not be allocated as private land		X	X	X	X
	Policy Statement 10: Ensuring that communal ownership of wetlands will be encouraged.		X	X	X	X
	2.2.2 Establishment of Wetland Conservation Areas		X	X	X	X
	Policy Statement 3: Ensuring that special wetland sites are designated and gazette as conservation areas to be protected as wetland reserves where no consumptive uses will be allowed					
8. Draft Wildlife Policy (2011)	Policy Statement 1: Promoting restoration and rehabilitation programmes for degraded wetlands	X	X	X	X	X
	4.2.2(4): Support the mainstreaming of SEA to guide sustainable development in wildlife conservation areas to minimize negative impacts on species, habitats and ecosystems	X	X	X	X	X
	11.3.2(3): Providing incentives to provide the under-represented gender into wildlife conservation careers and occupations	X	X	X	X	X
	11.6(2): Ensuring that workplace initiatives are adapted for people with HIV/AIDS	X	X	X	X	X
	8.5.3: Wildlife Security	X	X	X	✓	X
	<ul style="list-style-type: none"> Putting in place a harmonized and appropriate regulatory framework, Standing Orders and Disciplinary Code for the general control, direction and management of the wildlife security countrywide 					
	<ul style="list-style-type: none"> Strengthening wildlife security in wildlife conservation areas 	✓	X	✓	✓	X
	<ul style="list-style-type: none"> Establishing and building the capacity of local communities to bolster security in wildlife conservation areas, including establishing 	X	X	X	✓	✓

	and maintaining security bases					
	• Establishing transparent and inclusive mechanisms for recruitment, management and monitoring of wildlife security agents countrywide.	X	X	X	X	✓
	• Strengthening collaboration with local, regional, national and international law enforcement agencies in combating wildlife related crimes	X	X	X	✓	✓
	Other policy goals	X	X	X	X	X
	• Decentralization of wildlife planning to constituency level					
	• Developing an effective mechanism for sharing benefits including revenue with communities living adjacent to PAs.	X	✓	✓	X	X
	• Developing and implement wildlife disaster preparedness, response and rescue strategy	X	X	X	X	X
	• Developing measures for the conservation and management of wildlife species whose ranges are shared with neighbouring countries with priority being given to endangered and threatened species and species used by one or more of the countries concerned	✓	X	X	X	X
	• Developing recovery plans for the conservation and survival of endangered and threatened species	X	X	X	X	X
	• Educating the public and raising awareness on the critical role of wetlands, rivers and lake ecosystems	✓	X	X	X	X
	• Supporting landowners and communities to set aside wildlife conservation areas and sanctuaries within the framework of approved land use plan of the area	✓	✓	✓	X	X
	• Ensuring good governance in the management of wildlife conservation areas and sanctuaries	X	✓	X	X	X
	• Erecting and maintaining game barriers and other approved deterrent measures to minimize HWCs	X	X	✓	X	X
	• Establishing and building the capacity of local communities to bolster security in wildlife conservation areas, including establishing and maintaining security bases.	X	X	✓	✓	X
	• Establishing clear and easily recognizable boundary markers of PAs, which are monitored and controlled	X	X	X	X	✓
	• Establishing collaborative management arrangements and joint ventures that enhance local community and private sector involvement in the management of PAs.	X	X	X	X	X
	• Identifying, designating and protecting linkage zones between isolated habitats, particularly wildlife migratory routes, corridors and	X	X	X	X	X

	dispersal areas through participatory processes and innovative schemes such as leases, covenants, easements and management agreements					
	<ul style="list-style-type: none"> Incorporating or domesticating the provisions of the relevant wildlife related Multi-lateral Environment Agreements (MEAs) to which Kenya is a Party 	X	X	✓	✓	✓
	<ul style="list-style-type: none"> Promoting joint ventures in the conservation and management of wildlife conservation areas and sanctuaries. 	✓	✓	✓	X	X
	<ul style="list-style-type: none"> Providing adequate incentives to support landowners, local communities and other stakeholders to invest in wildlife conservation and management 	✓	✓	X	X	X
	<ul style="list-style-type: none"> Putting in place mechanisms to identify, control and eradicate invasive alien species in wildlife conservation areas in collaboration with relevant lead agencies. 	X	X	✓	X	X
	<ul style="list-style-type: none"> Supporting compensation of wildlife damage to human, crop, livestock and property 	X	X	✓	X	✓
	<ul style="list-style-type: none"> Supporting conservation education, public awareness and capacity building, in order to foster wildlife conservation and change of attitudes amongst local communities, schools and other interested groups 	X	✓	X	X	X
	<ul style="list-style-type: none"> Supporting the conservation and management of wetlands 	✓	X	✓	X	X
	<ul style="list-style-type: none"> Supporting the development and implementation of approved management plans that incorporate multiple and compatible land use practices through participatory processes. 	✓	✓	X	X	X
	<ul style="list-style-type: none"> Supporting the restoration of degraded wetlands, riverbanks and, where appropriate 	X	X	X	X	X
	<ul style="list-style-type: none"> Support the establishment constructed wetlands in business areas 	X	X	X	X	X
9. National Horticulture Policy	8.3 Environmental Sustainability	X	X	X	X	X
	8.3.2 Proposed Policy Interventions					
	ii) Enhancing environmental conservation and measures to mitigate the effects of climate change iii) Instituting appropriate measures to promote water harvesting, irrigation, recycling of water, and damming.	✓	X	X	X	X
	8.6 Social Sustainability	X	X	X	X	X
	i) Encouraging the private sector to undertake environmental CSR					
10. National Forest Policy (2005)	4.4.4 International obligations	X	X	X	X	X
	<ul style="list-style-type: none"> Fostering close collaboration with neighbouring countries to ensure sustainable management of cross-border forests 					

	Other policy goals:	✓	X	X	X	X
	• Supporting the enforcement of regulations pertaining charcoal burning					
	• Regulating production and marketing of charcoal	✓	X	X	X	X
	• Collaborating with stakeholders in conservation and management of forests	X	X	X	X	X
	• Rehabilitation of forests	X	X	X	X	X
11. National Policy for Disaster Management	• Establishment of nurseries and production of seedlings	X	X	X	X	X
	2.1: Promoting the mainstreaming of disaster management and climate change into development planning and management for sustainability	X	X	X	X	X
	3.1: Providing for well-structured participation of society in disaster management by integrating traditional coping strategies into the DM systems	X	X	X	X	X
	Other policy goals: Supporting climate change disaster risk reduction initiatives	X	X	X	X	X
12. National Gender and Development Policy	• Considering the needs and aspirations of all Kenyan men, women, boys and girls across economic, social and cultural lines.	X	X	X	X	X
	• Ensuring the empowerment of women	X	X	X	X	X
13. National HIV policy	• Ensuring that new development projects especially in the rural areas encourage preventive and responsible behaviour both for the workers involved in such projects and also the local people within which projects are taking place as a goal towards curtailing the spread of the disease	X	X	X	X	X
14. National Environmental Sanitation and Hygiene Policy (2007)	4.3: Sanitation and the environment	X	X	X	X	X
	• Protection of the environment from pollution and its negative effect on human health					
	• Ensuring use of technologies that uphold the right of present and future generations to a healthy and pollution-free environment.	X	X	X	X	✓
	• Ensuring the use of sanitation systems that are environmentally sound	X	X	X	X	✓
	• Preventing environmental pollution from liquid and solid waste	X	X	X	X	✓
	Other policy goals	X	X	X	X	X
	• Setting of clear standards and guidelines for environmental sanitation					
	• Increasing	X	X	X	X	X

	environmental sanitation awareness across the country					
15. Draft National Tourism Policy (2007)	3.0: Ensuring that adequate resources are committed to improve and maintain safety and security in all tourism areas	X	X	X	✓	✓
	Other policy goals	X	✓	✓	✓	X
	• Making tourism industry in Kenya a leader in responsible and sustainable environmental practices					
	• Promoting and developing land resources for tourism in a co-ordinated manner	X	✓	✓	X	X
	• Developing facilities and products in national parks and game reserves	X	X	✓	✓	✓
	• Maximizing the co-ordination between conservation programmes of Government agencies and non-governmental organizations	X	X	X	X	X
	• Developing integrated environmental management principles for all tourism and other major economic development projects	X	X	X	X	X
	• Implementing, and promoting awareness among all tourism stakeholders	X	X	✓	X	✓
16. Draft National Policy on Peace Building and Conflict Management (2006)	• Establishing and strengthen the community capacity to maintain effective systems for conflict early warning and early response	X	X	X	X	X

1.4:

Legal Frameworks

Name of framework	Relevant obligations for Amboseli Management Plan	Ecological Management Programme	Tourism Development & Management Programme	Community Partnership Education Programme	& Security Programme	Ecosystem Management Programme
1. Environmental Management and Coordination Act (EMCA) No. 8 of 1999	Section 42 – Supporting the protection of rivers and wetlands	✓	X	X	X	X
	Section 44 – Supporting the protection of hilltops, hill sides, mountain areas and forests	X	X	X	X	X
	Section 50 – Supporting the conservation of biological diversity	✓	X	✓	X	X
	Section 51 – Supporting the conservation of biological resources in situ	✓	X	✓	X	X
	Specific integration obligations	X	X	X	X	X
	<ul style="list-style-type: none"> Prohibiting and controlling the introduction of alien species into natural habitats 	✓	X	X	X	X
	<ul style="list-style-type: none"> Controlling and prevention of environmental pollution 	X	X	X	X	X
	<ul style="list-style-type: none"> Supporting environmental restoration 	✓	X	✓	X	X
	<ul style="list-style-type: none"> Supporting the creation or maintaining of wildlife migration corridors 	X	✓	X	X	X
	<ul style="list-style-type: none"> Carrying out environmental audit and monitoring of all activities that are likely to have significant effect on the environment 	✓	✓	X	X	X
	<ul style="list-style-type: none"> Ensuring integration with all other relevant EMCA Regulations including the following:- <ul style="list-style-type: none"> The Environmental management and coordination (Noise And Excessive vibration Pollution Control) Regulation, 2008 Water Quality Regulations, 2006 (Legal notice No. 121) Waste Management Regulations, 2006 (Legal Notice No.121) Air Quality, Regulations, 2008 Fossil Fuel Emission Control 	X	X	X	X	X

	<ul style="list-style-type: none"> Regulations (2006) ○ Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit sharing Regulations (2006) ○ Draft E-Waste Management, Regulations 2013 					
2. EMCA (Wetlands, river banks, lake shores and sea shore management) Regulations, 2009	<ul style="list-style-type: none"> Ensuring that no person shall carry out any of the activities stipulated in Section 42 of the Act without a Wetland Resource Use Permit by the relevant lead agency and an Environmental Impact Assessment License issued by the Authority where applicable 	X	X	X	✓	X
	<ul style="list-style-type: none"> Supporting the enforcement of Section 42 (g) of the Act which prohibits the draining wetland 	X	X	X	✓	X
	<ul style="list-style-type: none"> Ensuring that every owner, occupier or user of land which is adjacent or contiguous to a wetland shall, with advice from the Authority, have a duty to prevent the degradation or destruction of the wetland, and shall maintain the ecological and other functions of the wetland 	X	X	X	✓	X
3. Physical Planning Act, Cap 286, of 1998	Section 29: Ensuring that developers to ensure proper execution and implementation of approved physical development plans	X	✓	X	X	✓
	Other legal obligations: Ensuring that subsidiary area plans are recognized and integrated in the Regional Physical Development Plans	X	X	X	X	X
4. Water Act, Cap 372 of 2002	Article 20. (1) Ensuring that state schemes shall take precedence over all other schemes for the use of water for the drainage of land	X	X	X	X	X
	Article 23. (1) Ensuring that community projects will not be approved unless:- a) The proposed project is approved by the persons owning or occupying at least two-thirds of the particular area concerned in the project;	X	X	X	X	X

	b) Provision is made by the project for an adequate alternative supply of water to be supplied to permit holders likely to be adversely affected and unable to benefit from the scheme	X	X	X	X	X
	2) Ensuring that No permit for a community project shall be cancelled or varied except with official consent	X	X	X	X	X
	Other legal obligations	✓	X	✓	X	✓
	• Promoting the conservation and proper use of water resources					
	• Protection of any water resource, its source or catchment	✓	X	✓	X	X
5. Forest Act No. 7, of 2005	Part II Section 5 (i): Supporting the enforcement of the conditions and regulations pertaining to charcoal making and other forest utilization activities	✓	X	X	X	X
	37 (1): Enforcing legal obligation on the protection and management of all forests and woodlands	X	X	X	X	X
	Part IV: Community participation in forest management and conservation in Kenya	X	X	X	X	X
	Article 45 (2) (2): Supporting community participation in forest management and conservation through CFAs	X	X	X	X	✓
	Other legal obligations	X	X	X	X	X
	• Ensuring appropriate precautions to prevent forest fires					
6. The Forest (Charcoal) Rules, 2009, Legal Notice No. 186	14. Supporting the enforcement of the charcoal movement permit	✓	X	X	X	X
	(1) Ensuring that no person shall, move charcoal or charcoal products from one place to another unless—					
	(a) The person is in possession of a valid charcoal movement permit issued under these Regulations and is operating in conformity with the terms and conditions of such permit; and	✓	X	X	X	X

	(b) The person has a certificate of origin for the charcoal the subject of the charcoal movement permit duly signed by the relevant association or person from whom charcoal is to be obtained;	✓	X	X	X	X
7. Wildlife (Conservation and Management) Act Cap 376 of 1976, 1989 & Bill, 2013	16: (b) (c)(d)(e) (f): Supporting the formation of Wildlife Conservation Committees	X	X	✓	X	✓
	31: (3): Supporting the appointment of Honorary wardens especially among the local communities	X	X	X	X	✓
	33 (c): Supporting the establishment of wildlife Development Fund for development of conservation areas	X	X	X	X	X
	68:(4): Preventing development in a National Park without approved management plans	X	X	X	X	✓
	Article 40. (1): Supporting communities, landowners, groups of landowners and existing representative organizations may establish a community wildlife association to facilitate conflict resolution and cooperative management of wildlife within a specified geographic region	✓	X	✓	X	X
8. Agriculture Act	• Sustainable pasture management	X	X	✓	X	X
9. Tourism Act, No. 28 of 2012	Section 28: Supporting the establishment of the Tourism Protection Unit	X	X	X	X	X
10. Public Health Act, Cap 242	Article 129: Supporting the protection of public water supplies, meat, milk and other articles of food	X	X	✓	X	✓
	Article 117: Supporting the prevention or remedy danger to health from unsuitable dwellings by health institutions	X	X	X	X	✓ E2NHJ
11. Crop Production and Livestock Act, Cap 321 of 1926	Artificial Insemination: Ensuring no person shall distribute or sell bull semen except under the authority of a license issued by the Director of Veterinary Services	X	X	X	X	X
	Culling Rules: Ensuring that all undesirable cattle shall be destroyed or disposed of	X	X	✓	X	X
	Part III: Supporting the branding and culling of livestock	X	X	X	X	X
12. Energy Act No 12 of 2006	Article 27 (2): Ensuring permits are secured in respect of supply of electrical energy to other persons or consumers and for a generating plant of over 1000kw intended for own use	X	X	X	X	X

	67 (d): Promotion of renewable energy sources including solar and hybrid system	X	X	X	X	X
	103 (b): Promotion development of renewable energy technologies including biomass, biodiesel, charcoal, solar and wind	X	X	X	X	X
13. Community Based Tourism Framework (2009)	Section 6.3:	X	✓	✓	X	X
	• Empowering communities to participate in tourism activities					
	• Encouraging conservation of the natural environment	X	X	X	X	X
	• Providing partnerships between communities and private sector organizations	✓	X	X	X	X
	• Supporting the conservation of resources through enterprise projects	✓	✓	✓	X	X
	• Supporting environmental conservation and sustainable use of natural resources	✓	X	✓	X	✓

1.5:

Strategic Plans

Name of framework	Relevant obligations for Amboseli Management Plan	Ecological Management Programme	Tourism Development & Management Programme	Community Partnership Education Programme	Security Programme	Ecosystem Management Programme
1. Local area management plans (e.g. GR and conservancy management plans) e.g. Kilitome Conservancy management Plan, Kimana Integrated Wetland Management Plan	Obligations to be identified in order to align local area management plan with the Amboseli Management Plan		X	X	X	✓
2. Vision 2030	The management plan is expected to support the following environmental flagship activities a) Supporting carbon offset schemes	X	X	X	X	X
	b) Supporting schemes on compensation for environmental services	X	X	X	X	X
	c) Supporting the control of the spread of invasive species	X	X	X	X	X
	d) Supporting drought disaster preparedness and early warning	X	X	X	X	X
	e) Supporting enhanced crime data collation, analysis and storage in protected areas	✓	X	X	X	X
	f) Supporting the increase of forest and tree cover to 10% by 2030	X	X	X	X	X
	g) Supporting security in protected areas	X	X	✓	X	X
	h) Supporting the reclaiming of wildlife corridors and migratory routes	✓	X	✓	X	X
	i) Supporting the rehabilitation, regeneration and restoration of degraded rivers	X	X	X	X	X

	j) Supporting water harvesting and storage	X	X	X	X	✓
3. National Environment Action Plan (2009-2013)	The management plan is expected to support the following environmental activities	✓	X	✓	X	X
	a) Enhancing the protection of wildlife resources					
	b) Reforestation and conservation of water catchment areas	X	X	X	X	X
	c) Supporting the increasing of forest cover in Kenya	X	X	X	X	X
	d) Protection of flora & fauna	✓	X	✓	X	X
	e) Integrating environmental concerns into regional and local development plans	X	X	X	X	X
	f) Promoting appropriate land use practices	✓	✓	✓	X	X
	g) Ensuring protection of water catchments	✓	X	X	X	X
	h) Supporting soil erosion and siltation control	X	X	X	X	✓
	i) Management of invasive alien species	X	X	X	X	X
	j) Controlling sand harvesting	X	X	X	X	X
	k) Promoting efficient water harvesting, storage and usage	X	X	X	X	✓
	l) Management of trans boundary forest resources	X	X	X	X	X
	m) Controlling of fire outbreaks	X	X	X	X	✓
4. National Biodiversity Strategy and Action Plan (2000)	The management plan is expected to support the following environmental strategic actions	X	X	X	X	X
	4.1.2: Gender concerns - Promoting gender awareness and involvement in all biodiversity programmes and projects					
	4.3.1: Supporting in situ conservation within protected area	✓	X	✓	X	✓
	4.3.2: Supporting in situ conservation outside protected areas	X	X	✓	X	X
	4.6: Supporting sustainable use of components of biological diversity	X	X	X	X	X
	4.9: Ensuring public awareness and education	✓	✓	✓	X	X
	4.3.2: Protection of sites of high biological	✓	X	X	✓	X

	diversity outside the protected area system because they may be habitats for unique endemics.					
	Other activities <ul style="list-style-type: none"> Improving and maintain security in order to facilitate biodiversity conservation and bioprospecting. 	X	X	X	✓	X
	<ul style="list-style-type: none"> Promoting and sustaining security in protected areas 	X	X	X	✓	X
	<ul style="list-style-type: none"> Developing strategies for protected areas 	X	X	X	X	✓
	<ul style="list-style-type: none"> Instituting conflict resolution mechanisms to deal with potential conflicts of interest 	✓	X	✓	✓	X
	<ul style="list-style-type: none"> Adopting best practices in conservation and management of natural resources 	✓	X	X	X	X
5. National Master Plan for the Conservation and Sustainable Management of Water Catchment Areas in Kenya (2012)	The management plan is expected to support the following environmental actions <ul style="list-style-type: none"> Supporting the rehabilitation, protection and conservation of important water catchment areas to address the problem of water availability and sustainable use 	✓	X	✓	X	X
6. National Conservation and Management Strategy for Elephants in Kenya (2012-2021)	The management plan is expected to support the following environmental strategic actions 3.3 Strategic Objectives 3.3.1 Elephant Protection Target 1.1 Supporting the reduction of the proportion of illegally killed elephants (PIKE) per annum to less than 1%	X	X	X	✓	X
	Target 1.3 Supporting the improvement of community engagement by the security force protecting elephant	X	X	✓	X	✓
	Target 1.4 Improving the cross-border protection of elephants	X	X	✓	X	X

	3.3.2 Population Expansion and Habitat Maintenance	✓	X	✓	X	X
	2.1 Supporting efforts for increasing national elephant distribution by at least 30% by 2020					
	2.2 Supporting the efforts for increasing elephant numbers by at least 2% per annum in areas where suitable habitat for recovery exists	✓	X	✓	X	X
	2.3 Supporting efforts to improve altered habitats in elephant range by 2021	✓	X	✓	X	X
	2.4 Ensuring that at least 10 corridors, including cross-border ranges, and buffer zones established and maintained, along with existing buffer zones and corridors	✓	X	✓	X	X
	3.3.4 Human Elephant Conflict (HEC)	X	X	✓	X	X
	4.2 Ensuring that protection from elephant damage of crops and property on the boundaries of elephant distribution range significantly improved					
	4.3 Ensuring that corridors are secured in areas of existing or potential HEC by 2021	X	X	✓	X	X
	3.3.5 Incentives	X	X	X	✓	X
	5.2 Ensuring increased income generation from tourism in elephant conservation areas across Kenya					
	5.3 Ensuring more sustainable compensation, consolation and insurance mechanisms against losses from elephant damage are successfully implemented	X	X	✓	✓	X
	5.4 Ensuring that at least 30% of existing unprotected elephant range in arid or semi-arid lands is protected under community conservation governance structures	✓	X	X	X	X
	5.5 Ensuring improved livestock management, grazing systems, optimal cattle densities and market penetration among pastoralist occupied parts of Kenya's elephant range	X	X	✓	X	X
	5.6 Ensuring that the potential for elephant compatible enterprise options are understood and supported	X	X	X	X	X

	3.3.6 Capacity 6.5 establish innovative approaches for raising funds for elephant conservation and management Implemented by 2021	✓	X	X	X	X
	Other obligations <ul style="list-style-type: none"> Ensuring security management of ivory stocks to prevent trophies leaking into illegal market and enhanced monitoring of elephants using appropriate technologies (fitting satellite collars to vulnerable elephant groups including cross-border populations) 	X	X	X	✓ X	X
	<ul style="list-style-type: none"> Ensuring stakeholder involvement in elephant conservation and management 	X	X	✓	✓ X	X
7. National Conservation and Management Strategy for the Black Rhino and Management Guidelines for the White Rhino in Kenya (2007-2011)	The management plan is expected to support the following environmental strategic actions Overall Goal <ul style="list-style-type: none"> Supporting efforts to ensure that the total black rhino numbers reach 700 rhinos by 2011 towards the vision of 2000 rhinos as a minimum viable meta population 	✓	X	X	✓	X
	<ul style="list-style-type: none"> Ensuring that by 2016, numbers of black rhino in Kenya reach close to 900 animals 	✓	X	X	X	X
	3.3.2: Protection <ul style="list-style-type: none"> Supporting efforts to minimize rhino poaching through effective enforcement 	✓	X	X	X	X
	<ul style="list-style-type: none"> Supporting efforts to ensure that security staff in private and community sanctuaries are enlisted in the Kenya Police Reserve (KPR) to enhance powers and legal status 	X	X	X	X	X
	3.3.3: Monitoring for Management <ul style="list-style-type: none"> Collaborating with the AfRSG Rhino Monitoring Training Programme which is being used in all rhino conservation areas 	X	X	X	X	X

	3.3.6: Community <ul style="list-style-type: none">Developing mechanisms for linking good-will projects to rhino conservation	✓	X	X	X	X
	<ul style="list-style-type: none">Ensuring that local community leaders are involved in rhino events such as translocations and census to promote rhino conservation	X	X	X	X	X
	<ul style="list-style-type: none">Effective engagement with communities surrounding rhino conservation areas for improved land use practices	X	X	X	X	X
	<ul style="list-style-type: none">Ensuring that rhino education and awareness information packs are developed in local languages and provided to relevant stakeholders including communities	X	X	✓	X	X
8. National Cheetah Strategy	The management plan is expected to support the following environmental strategic actions SO-1: Protection And Law Enforcement <ul style="list-style-type: none">Supporting efforts to reduce illegal killing of rhinos to less than 1% per annum and significantly reduce illegal trade in rhino horn and derivatives	X	X	X	✓	X
	<ul style="list-style-type: none">Target 1.1: Supporting efforts towards a reduction of Illegal killing of rhinos per annum to less than 1% of total population	X	X	X	✓	X
	SO-2: Monitoring for Management <ul style="list-style-type: none">Ensuring a standardized monitoring and reporting protocol to provide information for efficient protection, metapopulation management and programme implementation	✓	X	X	✓	X
	<ul style="list-style-type: none">2.1 - Strengthening and sustaining ranger/scout based monitoring in all rhino conservation areas	✓	X	X	✓	X
	SO-5: Awareness and Public Support <ul style="list-style-type: none">Raising awareness on the plight of the rhino to gain public and corporate support	✓	X	✓	X	X

	globally					
	<ul style="list-style-type: none"> 5.1 – Supporting public awareness on rhino illegal killing and illegal horn trade. 	✓	X	✓	X	X
9. National Conservation and Management Strategy for Lions and Spotted Hyenas	The management plan is expected to support the following environmental strategic actions Goal: To restore and maintain robust and connected populations of lions, spotted hyenas and their wild prey, while minimizing conflict and maximizing benefits to local communities. a) Education and Awareness Objective 2: Working with communities to enhance awareness and promote coexistence with the two species Target 2.2. Supporting outreach programme developed and implemented in lion and hyena ranges areas	✓	✓	✓	X	X
	Objective 3: Changing negative perceptions on the species Target 3.2. Ensuring linkage with local institutions (inclusive of CBOs) and media	X	X	X	X	✓
	Objective 4: Enhancing conservation education in learning institutions Target 4.1. Reviewing school outreach programmes to incorporate lion and hyena conservation issues	✓	X	✓	X	X
	b) Land use and Conflict Objective 5: Advocating and lobbying for a national land use policy that integrates socio-economic development and conservation of habitat for lion, hyena and their prey	✓	X	X	X	X
	Objective 6: Minimizing human - lion/hyena conflict and related issues Target 6.1. Reducing human–lion/hyena conflict by 50%	X	X	X	X	X
	c) Policy and legislation Objective 7: Developing and implementing conservation and management policy on lions and hyenas in both protected areas and non-protected areas	X	X	X	X	X

	<p>Target 7.2. Developing conservation area-specific management plans for Lions and spotted hyenas</p> <p>Target 7.4. Promoting international cooperation on conservation and management of cross border (shared) populations of lions and hyenas</p>					
10. Nairobi Metro 2030	<p>3.3.5 Green zones</p> <ul style="list-style-type: none"> Supporting the County Government to increase forest cover within its area of jurisdiction to 30% by 2030 	X	X	X	X	X
	<p>3.3.6 Ecological and conservation areas</p> <ul style="list-style-type: none"> Supporting gazettement and protection by County Government of ecologically fragile and conservation areas in the NMR as part of the effort aimed at reducing the region's ecological footprint 	X	X	X	X	X
	<p>4.1.3.3 Bringing the world to the NMR through tourism initiatives</p> <p>2. Expanding Park Tourism</p>	X	✓	✓	X	X
	c) Protecting conservation areas from human and other encroachment	X	X	X	X	✓
	<p>3. Developing and implementing a Heritage Tourism Initiative</p> <p>a) Identifying, documenting, gazetting and preserving valued heritage and sites within the NMR;</p>	X	✓	X	X	X
	c) Supporting promotion of cultural tourism	X	✓	✓	X	X
11. Agricultural sector Development Strategy 2010-2020	<p>6.3 Developing Northern Kenya and Other Arid Lands</p> <ul style="list-style-type: none"> Diversifying income sources for pastoral communities 	✓	X	✓	X	X
	<ul style="list-style-type: none"> Harnessing water to increase access for domestic use, livestock and wildlife by promoting water harvesting through constructing dams, pans and tapping run-off from roads and roof-tops 	X	X	X	X	✓
	<ul style="list-style-type: none"> Strengthening community-led natural resource management, including the use of cross-border grazing and browse 	✓	X	X	X	X

	resources, through collaborating and harmonizing sanitary measures with neighbouring countries					
	<ul style="list-style-type: none"> Promoting the keeping of camels and other non-traditional livestock such as ostrich and wildlife through game ranching and sanctuary management will also be promoted 	X	X	X	X	X
	<ul style="list-style-type: none"> Supporting rain fed production for emerging high-value, drought-tolerant crops such as Jatropha, Melia, indigenous fruits, medicinal species, gum arabica and resins 	X	X	X	X	X
	<ul style="list-style-type: none"> Promoting diversification of income and employment sources including enhancing livestock value-adding projects such as processing meat, milk, honey, hides, skins and bone, as well as soap and oil making 	✓	X	X	X	X
	6.4 Improving management of the environment and natural resources	✓	X	X	X	X
	<ul style="list-style-type: none"> Improving environmental conservation 					
	<ul style="list-style-type: none"> Improving pollution and waste management 	X	X	X	X	✓
	<ul style="list-style-type: none"> Enhancing conservation and management of resources 	✓	X	✓	X	✓
	<ul style="list-style-type: none"> Implementing the national climate change response strategy 	X	X	X	X	X
	<ul style="list-style-type: none"> Supporting the establishment of wildlife conservancies and game farming as a land use under local community management 	X	X	X	X	X
	6.6 Forestry and wildlife resources	X	X	X	X	X
	<ul style="list-style-type: none"> Developing and implementing appropriate mechanisms for protecting, conserving and sustainably managing forest resources 					
	<ul style="list-style-type: none"> Developing and implementing appropriate mechanisms for protecting, conserving and sustainably managing wildlife resources 	✓	X	✓	X	✓

	<ul style="list-style-type: none"> Strengthening forest and wildlife research, extension and training 	✓	X	X	X	✓
12. National Climate Change Response Strategy (2009)	The management plan is expected to support the following environmental strategic actions a) Water resources <ul style="list-style-type: none"> Supporting the construction of dams and water pans 	X	X	X	X	X
	<ul style="list-style-type: none"> Supporting the protection of water towers, river banks, and water bodies 	✓	X	X	X	X
	<ul style="list-style-type: none"> Supporting the de-silting of riverbeds and dams 	X	X	X	X	✓
	<ul style="list-style-type: none"> Improving municipal water recycling facilities 	X	X	X	X	X
	b) Livestock/pastoralism <ul style="list-style-type: none"> Supporting developing special livestock insurance schemes 	X	X	X	X	X
	c) Physical Infrastructure including transportation and telecommunication networks Ensuring that all new infrastructure is climate-proof over its lifespan	X	X	X	X	X
13. National Tourism Master Plan	3.1 Security <ul style="list-style-type: none"> Expansion and maintenance of security on our roads 	X	X	X	✓	X
	Improving safety and security of tourists and wildlife.	X	X	X	✓	X

**PROCEEDINGS FOR DIALOGUE WORKSHOP ON THE STRATEGIC
ENVIRONMENTAL ASSESSMENT (SEA) FOR THE AMBOSELI ECOSYSTEM
MANAGEMENT PLAN 2008-2018 HELD ON 28TH – 29TH NOVEMBER 2013 AT THE
NTAUWUOH PLAZA, LOITOKITOK**

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LIST OF ABBREVIATIONS

AEMP	Amboveli Ecosystem Management PLan
KWS	Kenya Wildlife Service
NEMA	National Environment Management Authority
ACC	Africa Conservation Center
NCCRS	National Climate Change Response Strategy
NGOs	Non Governmental Organizations
AWF	Africa Wildlife Fund
AET	Amboveli Acosystem Trust
NCAPD	National Coordinating Agency for Population and Development
EIA	Environmental Impact Assessment
MEAs	Multilateral Environment Agreements
PAPF	Protected Area Planning Framework

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DAY 1

MORNING SESSION

1. OPENING SESSION

The workshop commenced at 10.15 am with Mr. Koikai Oloitiptip, the Secretary at Amboseli ecosystem trust (AET) giving apologies for the delay in starting the workshop which was due to lack of electricity and awaiting of persons of interest such as the Governor of Kajiado County, Member of Parliament and the Director General-NEMA as well as late attendance of other key stakeholders. Mr. Koikai invited Madam Zainabu Salim, the Deputy Warden at Amboseli National Park to make the welcoming remarks.

Madam Zainabu welcomed everyone to the two day workshop and the Amboseli Ecosystem. Stating the aim of the workshop was to discuss and learn how to conserve the Amboseli Ecosystem in a much better way through the AEMP for which the SEA was the key issue of discussion. All in attendance were asked to participate in the discussion. Despite the delay in starting the workshop she expected the agenda to be covered so that in the end there will be a common understanding with a common goal. With that she handed the meeting back to Mr. Koikai.

Mr. Koikai, introduced himself to the participants, he asked them to introduce themselves and Madam Lucy Nashuh from the AET to lead the opening prayer. Mr. Koikai then proceeded to give a brief overview of the objectives of the AEMP. He explained the objectives were to bring all sectors and ideas together, to make Amboseli worth calling an ecosystem and to focus on its conservation. The AEMP is a document negotiated for about 5 years and was finally launched in 2008 by the KWS, though the local community opposed certain aspects of the plan. A year later, after some changes in consultation with the community, they finally embraced it. Thus the SEA being undertaken by Habitat Planners is aimed at assessing integration of the AEMP with existing environmental policies and legal frameworks.

Mr. Koikai invited Dr. David Western to give a brief background of Amboseli Ecosystem Management Plan.

2. BACKGROUND OF THE AMBOSELI ECOSYSTEM MANAGEMENT PLAN– DR. DAVID WESTERN-ACC

Dr. Western began by stating Amboseli National Park is one of the most important wildlife areas in Kenya. Its history dates back to 1940s when Tsavo and Nairobi were the only national parks in Kenya and it was handed down to the County Council as a County Council Reserve. Between 1960s-1970s the idea was for the Amboseli to become a masai park but that did not happen because of two reasons though there was strong backing from the County Council and the MP of the time; there was no sufficient masai recognition of why there was need to set aside a park and the government saw there was no way they could unilaterally take away the area since it was important for livestock and wildlife. After long negotiations by the masai and the government, Amboseli was declared a national park. An agreement was formed and indicated the government would provide water outside the park and pay guaranteed minimum returns to landowners for accommodating the wildlife.

In 2004, after many efforts the masai, NGOs, researchers, ACC, AWF and the KWS secretariate saw there was need to come up with a management plan for the Amboseli Ecosystem thus they set up a task force to come up with one. In February 2012, a meeting held at the Amboseli Sopa Lodge, with the various stakeholders decided a moratorium was to guide tourism development in the Amboseli and a SEA to be carried out if tourism development to be continued. Pursuant to Section 50 (d), (e) and Section 54 of the Environmental Management and Coordination Act (1999) and in furtherance of the consultative forum resolutions on the management plan, the National NEMA head office in Nairobi declared a one-year Moratorium for all proposed development activities on the Amboseli ecosystem until the management plan was gazetted after undertaking a Strategic Environmental Assessment (SEA). The moratorium came to effect from 28th February 2013. The implication of the moratorium is that NEMA and all other relevant lead

agencies shall not issue requisite licenses for any new or proposed developments or projects as listed in the Second Schedule of the EMCA (1999) until the entire management plan has been gazetted so that it can serve as a regulating instrument for development activities in the ecosystem. The moratorium will be in place for a period of one (1) year or until the Amboseli Ecosystem Management Plan that has been evaluated through a consultative SEA process and legally gazetted. Dr. Western concluded by stating that the SEA should be funded by the stakeholders such as KWS, ACC and AWF. He then handed the meeting back to Mr. Koikai.

Mr. Koikai elaborated the two signatories of the AEMP, KWS and the AET. AET consisted of 16 parties e.g. group ranches, ATGSA, KWS and conservation NGOs to ensure its actualization. He explained the 16 members of the AET are the chairman who comes from the group ranches, the secretary from the senior most person from KWS at park level and the rest executive committee members come from NGOs and other sectors. At this juncture, Mr Koikai invited Mr. Mwangi representing Mr. Apollo Kariuki from the Planning Unit at KWS Head office.

3. AMBOSELI ECOSYSTEM LAND USE ZONE MAPS - MR. PETER MWANGI- KWS

Mr. Mwangi began by saying that he was representing Mr. Apollo Kariuki who was unable to attend to the workshop due to overlapping official duties at the Coast Region. He presented maps of the Amboseli Ecosystem components. These maps showed the spatial layout of the ecosystem plan as in the AEMP. The first map was on Amboseli Ecosystem components which showed there are a total of 13 components; Lengesa, Lolarashi/Olgulului, Amboseli National Park, Mbirikani, Kimana, Endonet, Emperon, Olkaria, Rombo A, Rombo B, Kimana small holdings, Chyulu West Conservation Area and Kuku.

Mr. Mwangi showed a map of Amboseli Ecosystem Land Use Zones. The activities in the various zones were wildlife tourism, livestock production and arable agriculture. He explained the land use zoning maps should be updated because it was too generalized and not effective in controlling land use at the group ranch level. Secondly, land owners have updated their group ranch land use maps since the plan was developed in 2008; hence the need to update the land use maps to reflect the current zoning status and addition of updated land use maps for 4 ranches need to be added in the plan. The four ranches are Olgulului/Olorarashi, Kimana, Mbirikani & Rombo.

The Olgulului/Olorarashi Group Ranch-Land Use Zones map showed the area is divided into four major land use zones. These are Conservation & Tourism, Pastoralism and Settlement, Irrigated Agriculture and Rain fed Agriculture.

The Kimana land use zones map showed three major land uses which included: Conservation & Wildlife Tourism (Wildlife Sanctuary), Tourism & Conservation (along Amboseli-Loitokitok road up to Lemong'o springs) Wildlife Tourism, Conservation, Pastoralism & Settlement (Conservancies). Other land uses are Pastoralism & Settlement and Irrigated Agriculture.

The Mbirikani land use zones map showed three major land uses: Conservation & Wildlife Tourism (Wildlife Sanctuary), Wildlife Tourism, Conservation, Pastoralism & Settlement and Pastoralism & Settlement. He also presented another map of Mbirikani which included Oldonyo-Wuas Sanctuary and irrigated agriculture zone.

The Rombo land use zones map showed four major land use zones: Conservation & Tourism Wildlife Tourism, Conservation, Pastoralism & Settlement Pastoralism and Settlement Irrigated Agriculture.

Lastly Mr. Mwangi showed the proposed draft Amboseli Ecosystem land use map that stakeholders need to agree on for implementation. He concluded his presentation by outlining two proposed actions which stated; the land owners at the AEMP/SEA workshop are requested to endorse the land use maps for

Olgulului, Kimana, Mbirikani and Rombo group ranches and Land Use map for Kuku and Selengei should be availed to SW-Amboseli (if available) to enable production of a final updated AE land Use zoning Map.

Mr. Koikai thanked Mr. Mwangi for the presentation. Stakeholders present in the workshop but were not involved in formulating the AEMP are learning from the presentation, the plan may have inadequacies in the wildlife sector. The workshop is therefore a platform to bring everyone on board. He emphasized the ecosystem faces challenges such as climate change. A meeting held at the District Commissioner's office with some participants from the Global Environmental Facilities Consultants by the UNDP, they were showed the plans they had for agriculture which included irrigation and cultivation. The ideas were really good but wanting. The question that arose was should wetlands be cultivated or drained? Issues like these are some of the reasons the workshop was called to see how to work them out in collaboration with all stakeholders. Mr. Koikai then invited Mr. Joseph Patiat who was standing in for the MP Loitokitok Constituency to officially open the workshop.

Mr. Patiat welcomed all the participants to the workshop and to Loitokitok Constituency and declared the workshop officially opened.

Mr. Koikai thanked Mr. Patiat of the remarks and announced the participants take a tea break, after which Habitat Planners would present the findings of the SEA. After resuming from tea break Mr. Koikai handed over to Mr. James Ndung'u from Habitat Planners to take over facilitation of the workshop.

Mr. Ndung'u began by greeting the participants and welcoming them to the workshop. He invited Dr. Francis Mwaura from Habitat Planners to present the findings of the Strategic Environmental Assessment for the Amboseli Ecosystem Management Plan 2008-2018.

4. FINDINGS ON THE STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) FOR THE AMBOSELI ECOSYSTEM MANAGEMENT PLAN – DR. FRANCIS MWAURA & MR. PHILLIP WANDERA – HABITAT PLANNERS

Dr. Mwaura thanked the Amboseli Ecosystem Trust for allowing them to share the findings of the SEA. He explained Habitat Planners won the contract for the SEA in August and were happy to be the ones chosen to undertake it. The SEA is very important tool not only for the Amboseli Ecosystem but also countrywide as a model for other national parks and reserves. Habitat Planners is a consultancy firm in Nairobi which has been in operation for 10 years. It has undertaken many diverse projects for different clients such as NEMA, Government of Kenya, NCAPD and the Private Sector among others.

Dr. Mwaura started in on his presentation by explaining SEA is a requirement in Kenya for all management plans to ensure their effective implementation. The workshop has three main objectives;

- To familiarize with the Amboseli Ecosystem Management Plan (2008-2018)
- To make known the findings and recommendations of the SEA for the Amboseli Ecosystem Management Plan (2008-2018)
- For stakeholders to contribute towards the finalization of the SEA report

He explained that the Amboseli Ecosystem is a trans-boundary ecosystem and an international Biosphere Reserve. It is the second most visited national park after Lake Nakuru due to its diverse wildlife, authentic culture, scenic views and trans-ecological ecosystem-mountain, wetlands & terrestrial plains. The Amboseli Ecosystem is a renowned wildlife based tourism destination and it is linked to other important ecosystems- Tsavo, Chyulu, Kilimanjaro. The ecosystem has positive and negative impacts. The negative ones include increased population, sedentary & urban settlements, rangeland degradation, expanding agriculture and mushrooming tourism facilities among others. The SEA is conducted to find out if the plan will be effective towards mitigation of these to ensure sustainability.

The SEA is a decision making tool just like the EIA which helps a country ensure activities being undertaken are in harmony with the environment. SEA is done for Policies, Plans and Programmes. Policies if well planned are lifelong therefore needs to be critiqued to determine if they are suitable and environmentally friendly. For instance the SEA done for the AEMP is to ensure the activities conducted within the AEMP are sustainable. SEA is higher than EIA in that the support it gives is strategic and if not done the environment will suffer in the long term. The SEA recommends EIAs to be done for the numerous small projects within the AEMP. There are five types of SEA; Policy SEAs, Plan SEAs, Programme SEAs, Ex-ante SEAs-Pre-implementation SEAs and Ex-post SEAs-Post implementation SEAs. The AEMP is an Ex-post SEAs-Post implementation SEAs because the AEMP is already in implementation.

Dr. Mwaura went on to describe the Amboseli Plan SEA Process. It commenced early September 2013 and will end in January 2014. This is because the moratorium for the Amboseli expires in February 2014. A PPP brief for SEA submitted to NEMA on 16th August 2013, followed by the Scoping Report submitted to NEMA on 23rd September 2013, with revision on 20th November 2013. A Draft report to be submitted early December and the Final report to be submitted January 2014. The SEA process and implementation is guided by the SEA Guidelines of Kenya.

The Objectives for the Amboseli Plan SEA were;

- Assessing integration of the AEMP with existing environmental policies and legal frameworks,
- Assessing if planned activities are compliant with EMCA (1999) and its regulations,
- Assessing the level of integration of AEMP with other relevant national plans and strategies,
- Assessing AEMP integration with trans-boundary, regional and international environmental frameworks and
- Collate stakeholder inputs on the implementation of AEMP

The methodology used to conduct the SEA process involved;

- Screening and scoping of issues to be considered in the SEA.
- Documentary analysis for identification of relevant PPPs.
- PPP integration assessment of the 5 AEMP programmes.
- Field reconnaissance and stakeholder identification.
- Field missions for baseline situation analysis
- Stakeholder consultations and public participation.
- Plan Impact Analysis.
- Impact Mitigation.
- Identification of gaps and alternatives actions.
- Preparation of an Environmental Management and Monitoring Plan.
- Presentation of findings and dialogue.
- Compilation, validation and submission of SEA report.

Dr. Mwaura emphasized that the reason for the workshop was step eleven, to present the findings to the stakeholders who are to discuss them and address any issues arising. This is to aid in preparing the draft report which will be validated in another workshop, after which the final report will be prepared and submitted to NEMA for approval of the plan.

A PPP analysis was conducted and 53 PPPs were identified as relevant obligations for AEMP as below;

- 3 regional frameworks
- 9 MEAs
- 15 National Policies
- 13 Legal Frameworks
- 13 strategic plans

From the 53 PPPs 356 environmental obligations were identified. This framework was approved by the SEA Core Planning Team (CPT).

A PPP integration assessment of the 5 AEMP programmes was done, counter-checking each of the 250 proposed activities in the management plan against the PPP obligations. In order for the plan to be useful environmental obligations gaps were identified. These were not effectively considered in the AEMP activities.

The plan impact analysis showed environmental impacts which originate from the plan through activities and have an impact on the environment. Impact analysis was based on the following 5 parameters and 22 indicators as observed in the baseline situation analysis

- Physical impacts- 4 indicators
- Biological impacts- 6
- Social impacts- 3
- Economic impacts- 3
- Institutional and transboundary impacts, international implications and public interest-6

Dr. Mwaura went on to explain the findings of the SEA. The Amboseli Management Plan (2008-2018) had an overall integration level of 50.3% based on the PPP Framework and an overall non-integration level of 49.7% which was approximately 50% therefore it is a 50-50 situation. Initially the percentage of compliance to the PPPs was 21.8% but after stakeholder participation and public consultation it went up to 50.3%.

The five programmes in the AEMP are the Ecological, Tourism, Community Partnership and Education, Security and Ecosystem Operations and Management Programmes. The Ecological Programme had the highest non-integration level of 30.2%, followed by the Ecosystem Operations Programme with 30.4%, Community Programme with 22.4%, Tourism Programme with 12% and Security Programme with 3.4%. Ecological Programme has the highest non-compliance. A total of 46 out of 362 PPP gaps were identified. This is because it did not consider the transboundary frameworks and MEAs such as the EAC Climate Change Policy (EACCCP, 2011), Madrid Action Plan (2008-2013) and the United Nations Framework on Combating Climate Change among others. For instance climate change is not featured at all in the Ecological Programme therefore when reviewing the plan this must be taken into account. Non-complaint national obligations included EMCA (1999) which has only a 27% level of non-integration, the Water Act (2002) and which has almost 100% while the Forest Act (2005) has 66.7%.

In the Tourism Programme a total of 13 out of 362 PPP gaps were identified. The most non-compliant frameworks were transboundary frameworks, MEAs and legal framework were identified. For exAEMPl the NCCRS (2009) affects the tourism sector.

At this juncture Dr. Mwaura handed over to Mr. Philip Wandera of Habitat Planners to continue with the Presentation.

Mr. Wandera started off with the Community Partnership and Education Programme. He explained a total of 36 out of 362 PPP gaps were identified. The most non-compliant frameworks were policies and strategic plans. The general observation of the programme was that it did not sufficiently address key policies in social issues. For exAEMPl, National Gender Policy, National HIV Policy, NCCRS and the Vision 2030.

In the Security Programme a total of 7 out of 362 PPP gaps were identified. The most non compliant frameworks were the MEAs and the legal frameworks. ExAEMPls of obligations not factored include United Nations Convention to Combat Desertification (UNCCD), National ASAL Policy (2012), Tourism Act, No. 28 of 2012, and National Environment Action Plan- NEAP (2009-2013).

In the Ecosystem Operations Programme a total 33 of out of 362 PPP gaps were identified. The most non-compliant frameworks were the transboundary frameworks and MEAs although the programme did well in strategic plans with a 3% non-integration gap. Examples of MEAs not considered include The Seville Strategy for the management of Biosphere Reserves, Madrid Action Plan (2008-2013) for Biosphere Reserves and the United Nations Framework on Combating Climate Change (UNFCCC) among others. The AEMP does not sufficiently embrace the UNESCO MAB programme on Biosphere Reserves.

In summary, out of 53 PPPs with 362 obligations, 135 obligations non-integration were identified. 46 for Ecological Management programme, 36 for Community programme, 33 for Ecosystems operations programme, 13 for Tourism programme and 7 for Security programme.

Mr. Wandera moved on to Plan Impact Assessment. This section looks at the negative impacts identified from the plan for them to be rectified. Out of 250 activities in the plan 27 had potential negative impacts. This accounts for 10.8%. The 27 potential negative impacts need mitigation measures to be prescribed. The Programmatic breakdown of the 27 plan activities is as shown below;

- Ecological programme - 3 activities
- Tourism programme - 5 activities
- Community programme - 5 activities
- Security programme - 7 activities
- Ecosystems programme - 7 activities

Impact characterization was done in terms of probability and risk of occurrence, duration of the impact, magnitude, reversibility and its importance. These looked at the potential negative impacts from the activities though they may not seem to have a negative impact. For example construction of slaughter houses in the Amboseli Ecosystem is a good venture but it may be a source of conflict between the owners and middlemen.

In conclusion, the AEMP (2008-2018) is a good and commendable plan with minimal negative environmental impacts (10.8%). It is very neat and well organized and has an ecosystem approach. However, the plan has not sufficiently embraced the spirit of integrated management and implementation. The plan has also not adequately embraced national obligations for environmental sustainability. The plan has also not adequately embraced trans-boundary and international environmental obligations. Weak institutional collaboration because many stakeholders were involved in the planning but most are missing in the implementation framework. The weaknesses addressed by this SEA and should be incorporated in the plan.

Mr. Wandera concluded the presentation of the SEA findings with the recommendations of the SEA which included;

- The management plan should be gazetted together with the recommendations of the SEA (annexed)
- The Implementation Structure (AET) should be expanded to include membership of the following stakeholders;
 - Trans-boundary stakeholders
 - Representatives of County and National Governments departments
 - Private Sector Actors
 - Development Non-State Actors
- Review the PAPF to fully accommodate the needs of ecosystem-wide planning

5. REACTIONS

Mr. Ndung'u opened the floor for reactions to the presentation of the SEA findings from the participants. This was an open question and answer session.

- Mr Wilfred Ngonze (Satao-Elerai) asked why water and livestock management is not covered in the AEMP
- Dr. Sitati (AWF) thanked Habitat Planners for the well synthesised and informative presentation. Being the only ecosystem approach study, it is likely to be used as a model for the rest of ecosystems although there seems to be a disconnect with the ecosystem. Therefore, they should come up with another framework not only for the Amboseli but other ecosystems. A lot of work needs to be done in the plan on transboundary frameworks and MEAs. This shows along way to go for the AEMP.

New policies came up with the new constitution after the plan was developed, these need to be incorporated. He asked for clarification on the negative impacts of slaughter house construction as indicated in the Community programme as slaughter houses will reduce livestock, improve livelihoods and reduce climate change effects e.g. losing livestock weight thus it wasn't clear how it is a potential negative impact.

- Mr. Musau (WRMA) said the presentation was a good one especially for those not involved in the formulation of the AEMP. He made a point of correction that the Water Act Cap 372 was repealed and is no longer in use.
- Mr. Odupoi (KWS) thanked Habitat Planners for the presentation well done. His concern was why were all Group Ranches not invited because they needed to be aware of what was being discussed.
- Mr. Mwangi (KWS) commented on the management plan stating the gaps identified in relation to the newly formulated policies, he inquired if the AEMP will be revised or do they have to go back to the drawing board?
- Mr. Ndung'u stated that the AEMP should be governed by the new laws and policies.
- Dr. Mwaura responded to the reactions by explaining the AET can't be blamed for not incorporating the new laws but as the consultants they couldn't ignore the new laws and policies as it will be doing disservice to the SEA process. The AET should use this window to bring on board all new instruments.
- Mr. Wandera responded to Dr. Sitati's query elaborating that some stakeholders (livestock middlemen) said if a slaughter house is introduced in the area they will stop it as well as the ownership and management of the slaughter house was an issue to the residents.
- Mr. Koikai clarified that invitations were sent to all stakeholders of the AE including AE Chairman, all Group Ranch representatives, Chiefs, Secretary of KUKU but are yet to come. He added that the invitation list forwarded to them by the consultants is the one they used to invite participants.

Concerning the inclusion of the livestock and water in the AEMP. They were incorporated although negotiations took five years. When finalization was being done the KWS and the Ministry of Environment and Mineral Resources were the only ones present. The local community boycotted the plan but later on came back after further negotiations. The other stakeholders could not be included at that stage due to the sensitive nature of the negotiations. Although he emphasized they are willing to fully include them in the revision from that point onwards.

- Mr. Mkala (IFAW) clarified that the livestock and water issues have been incorporated in the AEMP but are not as pronounced as should be.
- Dr. Mwaura explained that the two issues did not come out strongly because the issues vary per programme and their representation in each programme is different. In addition stakeholders of the two sectors are missing in the implementation stage thus the disconnect

in the livestock and water sectors. He proposed the sectors of government incharge of the various areas should ne visible in the implementation if the AEMP.

- Mr. Ngigi (Ministry of Agriculture) stated that he did not hear any mention of the ESMP

On the issue of land especially on road construction, sand harvesting on river banks and mineral prospecting in the Amboseli Ecosystem, have their impact on the environment been determined?

He added that there is a new agriculture bill of 2003. The Agriulture Act of 2003

With this Mr. Ndungu ended the morning session by thanking the participants for their inputs and invited them for lunch.

AFTERNOON SESSION

Mr. Ndung'u welcomed the participants from lunch break. He announced the session on reactions to the findings of the SEA would continue after which the participants will break away into groups and discuss emerging issues and discuss the way forward for the dialogue.

- Mr. Mkala resumed the afternoon reactions session by requesting the Habitat planners to avail the report to all stakeholders. He added that a few issues were missing from the report for instance the new cement factory which was not been factored in the report yet it will have a major impact on the Amboseli Ecosystem.

Transport infrastructure has also not been considered. This should be a must considering animals cross over from the Amboseli National Park to the Chyulu Hills. Bypasses, flyovers and road signage should be considered to prevent animal accidents. He proposed that the locals should advocate for animals to ensure it is mandatory for any road construction to consider road signage

- Mr. Mwangi requested that when addressing physical indicators in plan impact analysis he would like the report to better analyze land use patterns. With regards to the AEMP, its scope is based on PAPF therefore, its formulation is guided PAPF so to what extent can changes be made to the AEMP?
- Mr. Ole Sambu explained that the AEMP lacks livestock management because it only considered wildlife and this will prove destructive in the long run due to the fact that livestock make up a major part of the Amboseli.
- Dr. Mwaura responded to Mr. Ngigi's query on the ESMP by explaining the ESMP is a requirement in the SEA by NEMA. Although the AEMP has its own the SEA will include one in the report.
- Mr. Koikai responded concerning the cement factory saying the factory will be in Mbirikani Group Ranch. It was agreed that environmental conservation will take place, there are land use patterns that are in place and the next step is to conduct impact mitigation though the process is slow. He asked how can the SEA address this. To which Mr. Ndung'u responded by saying that there is scanty information on the cement factory therefore people should be assigned to go to Mbirikani leadership to gather information on the cement factory.
- Mr. Ndung'u made it clear that when constructing roads, animals should be considered in the construction design. The SEA report shows designs for roads, hotels and KWS installations to address climate change for instance bridges during flashfloods. The AEMP was written mainly by the KWS therefore Habitat Planners recommends all stakeholders to be present since KWS cant implement the plan by themselves that is why the dialogue workshop was organised to inform them that they are needed.

- Mr. Jackson Mwato (ACC) said a three day meeting was held in 2009 to intergrate the livestock component into the plan. Thus the livestock component is indeed in the AEMP. Implementation of the plan is at the institution level therefore AET to be the link between the institutions and the grassroot level. Since livestock is not seen in the implementation level it is assumed to be left out. Water has been viewed from different points of view i.e. by the conservationists and the government as a result there is a disconnect but the dialogue today has enable one point of view.
- Dr. Western (ACC) said the plan is not an ecosystem plan but a wildlife plan. 85% of animals in the AE are livestock and 15% wildlife. In that case to manage the rangeland there has to be a rangeland management plan. Each rainy season 30% less grass is being produced and with increase in settlement grass production lessens even further. Therefore, unless the rangeland is managed there will be continued negative impact on livestock and wildlife.

He added that the AET should be the link among stakeholders to enable coordination and management of the AEMP but land owners are the most important. AET can't carry out all activities and so all parties to contribute. If the plan is revied within a year it will be best for livestock, wildlife, man and the environment.

- Dr. Sitati said he is happy with the progress of Habitat Planners, the next step is to ensure gazzettment of the plan by February 2014. He asked if local management plans were considered in the SEA and that the county management plan is being drawn, when it is ready it should be considered. He did not understand equitable benefit sharing. He did not see livestock as an economic indicator. The biggest threat to conservation in the AE at the moment is agriculture which is invading wetlands. He added that the Community Land Bill to be recognized.
- Dr. Mwaura explained that the indicators can be improved although the plan impact assessment has already been done therefore backtracking to change will take lots of time though Dr. Sitati's changes have ben noted. On local management plans he said that there are numerous plans but considered the ones most suitable and adapted to the AEMP e.g. Kilitome, Olgulului/Olororashi plans.
- Mr. Musau added that there are sub-catchment management plans prepared by WRUAs that should also be considered.
- Mr. Koikai said the Community Land Bill was being discussed in parliament though it has not gone far. It has passed the first reading and is awaiting the second one.
- Dr. Mwaura reported that they tried to investigate the alignment of the AEMP with the County Management Plan but the County government was happy with the AEMP and will consider issues from the AEMP to include in their plan.
- Mr. Kinyua was concerned that the data available on resources is inadequate and was wondering if this has been addressed in the plan. Some programmes such as Ecological Management have a lot of issues in research which have not been captured, to which Mr. Koikai responded by explaining there is a symbiotic relationship between researchers and KWS. Mr. Wandera added an example of WRMA and KWS who have to work together. WRMA pays fees to KWS and they get access to do water research in the Amboseli Ecosystem.
- Mr. Kinyua added KWS in collaboration with other stakeholders should monitor the water discharge of the Amboseli Ecosystem and collect data. Mr. Ndung'u emphasized this issue leads to the problem of lack of integration among stakeholders and should be discussed in the breakout groups
- Dr. Western suggested that the AET should come up with a Resource Center to gather information on livestock, wildlife and water among others. Mr. Koikai added the Resource center would be a good way to tap information, expertise and experiences.

At this juncture Mr. Ndung'u called upon Mr. Wandera to give topics to group the participants and give topics to be discussed. He announced after discussions groups were to compile their inputs as they will be presented upon reconvening the following day.

Mr. Wandera gave the following as topics for the working groups;

1. Capacity for the AET to implement the management plan
2. Institutional integration within the ecosystem
3. Water & agriculture
4. Livestock and landuse zonation

He directed that the key focus of the discussions was on the following:

- a) Key challenges
- b) Solutions
- c) Way forward

DAY 2

MORNING SESSION

The morning session begun with a recap of Day 1 by Ms. Faith Resiato Oloiptip of Habitat Planners. She summarized the events of the day and handed back to Mr. James Ndungu.

6. GROUP WORK PRESENTATIONS

The workshop began at 8.45 am. Mr. Ndung'u opened the session by welcoming participants to the second day of the workshop. Madam Zainabu led the opening prayer. Mr. Ndung'u invited Ms. Faith Resiato from Habitat Planners to do a recap on day one's activities. He announced each of the breakout groups will share their findings with the rest of the participants. The groups were divided into 4:

- i. AET capacity
- ii. Livestock
- iii. Water and Agriculture
- iv. Institution Integration

Group 1: AET Capacity building for implementation of the AEMP by Benson Ngigi - Ministry of Agriculture

AET Coverage

The AET covers all group ranches and the entire Amboseli Ecosystem of Loitokitok including private land, Amboseli National Park, part of Tsavo National Park, Chyulu Park and conservancies in Loitokitok sub-county. Its role is to oversee land issues in these areas.

Challenges facing the AET

- Political interference and manipulation especially at the group ranches which form a large part of the coverage area.
- Inadequate cooperation among stakeholders in the AET
- Inadequate funding and resources to run the AET
- Inadequate staff for secretariat
- Lack of infrastructure i.e. office space and equipment
- Lack of policy entrenchment if AET in the previous government plans
- Conflicting trans-boundary policies especially in respect to game scouts and conservation

Solutions

- Implementation of the AEMP involving all the stakeholders.
- Harmonization and strengthening of the East African Community
- Involvement of all stakeholders and leaders in every step of implementation
- Lobbying and funds raising strategy should be developed
- Employ resource mobilization department and be equipped

- Train all AET staff on skills development especially report writing, donor relation, financial management
- Employ more field officers to implement the AEMP e.g. ecologists
- Establish an independent secretariat in resources to run the implementation and co-ordination of the AEMP

The Way Forward on AET Capacity

- Regular meeting with all stakeholders
- Establish a task force for implementation that will work closely with the trustees
- Enhance AET mobility in the ecosystem with a vehicle or a motorcycle at minimum, GPS, cameras etc. This will help in understanding the area better.
- AET to print and circulate copies of the AEMP in all stakeholder offices

Reactions

- Mr. Ndung'u asked, what is the relationship between AET and game scouts in Kenya and those in Tanzania?
- Mr. Koikai replied the relationship was good there are indicators of performance on both sides. There are collaborative activities that take place between game scouts in Kenya and Tanzania thus a change because of the influence of joint activities.
- Mr. Ngonze stated there is a program in ATGSA whose purpose is to enhance security at the boarder thus good collaboration.
- Mr. Ndung'u asked how can weakness of AET as a coordinating body be addressed to which Mr. Mkala responded by elaborating the AET is a body that needs to be empowered. There needs to be an AET member in all sectors of the government. These members should be volunteers. Every stakeholder should have a file on AET to reduce laps and gaps of information
- Dr. Mwaura emphasized Mr. Ngigi's point of circulating the AEMP to all stakeholders and members of the public. This can be done by uploading the AEMP to their website for easy access for everyone.
- Mr. Ndung'u suggested the AET should receive financial resources and vehicles to ensure mobility. The AET should come with a work plan to create a basis when lobbying for resources
- Mr. Mwangi asked how AET operates currently. Mr. Koikai responded by saying the KWS is supported by as NGOs such as ACC, AWF, IFAW fund them as well as other small components around them.
- Madam Zainabu added the AET is still growing and should be supported both financially and socially to motivate them.

Group 2: Livestock keeping and zonation by Dr. Noah Sitati - AWF

The question was how to use the livestock sector to enhance conservation and reduce conflicts

- Development of management plans with land use zonation
- Good pasture management
- Allow grazing succession to get enough forage for wildlife and livestock
- Create enough space for both wildlife and livestock
- Review and adoption of proper land use zonation (extend to other group ranches that do not have them)
- Development of range management plan
- Improve breed quality for better returns (Dual purpose)
- Establish marketing strategies for better returns
- Adequate compensation based on market rates
- What are the challenges related to livestock keeping and their possible solutions

	Challenges	Possible solutions
1	Diseases & pests	<ul style="list-style-type: none"> • Disease surveillance • Extension services • Capacity building on livestock health
2	Livestock depredation	<ul style="list-style-type: none"> • Compensation • Consolation • Predator proof bomas • Better herders • Awareness creation
3	Drought	<ul style="list-style-type: none"> • Grass banks • Seed banks • Insurance scheme • Diversify livelihoods/alternative • Early warning system
4	Overstocking	<ul style="list-style-type: none"> • Awareness creation • Quality breeds
5	Poor marketing	<ul style="list-style-type: none"> • Develop livestock marketing strategy • Provide slaughter houses • Education and awareness creation
6	Poor breeds	<ul style="list-style-type: none"> • Improved breeds • Capacity building • AI extension services
7	Lack of extension services	<ul style="list-style-type: none"> • Reintroduction of extension services • Training of and local paravets
8	Inadequate drugs in the county	<ul style="list-style-type: none"> • Government to supply enough drugs
9	Strong cultural attachment to livestock	<ul style="list-style-type: none"> • Awareness creation
10	Land subdivision	<ul style="list-style-type: none"> • Land use plan and zonation
11	Agricultural expansion	<ul style="list-style-type: none"> • Land use zonation • Policy review
12	Water scarcity and distribution	<ul style="list-style-type: none"> • Provision of water through rain harvesting(dams, water pans), Boreholes, and distribution through pipeline • Water allocation plan

Way forward

- Comprehensive rangeland management plan
- Community based natural resource management
- Build capacity
- Education and awareness creation
- Develop and or review environmental Law enforcement at county and national government level
- Livestock production and marketing systems establishment
- Adoption and enforcement of the ecosystem land use zonation plans

Reactions

- Mr. Loomuna said the main challenge is unplanned settlement. These block wildlife migration corridors. For exAEMPlE from Loitokitok to Isinet the corridor is blocked despite there being conservancies, they may not be helpful. The challenge is not poaching but human wildlife conflict. Livestock is very important to the residents of the Amboseli ecosystem. The plan should look at the livestock and the residents' future.
- Mr. Koikai said conflict comes about when animals go to bomas in search of water. Predator proof bomas need to be sustainable but id encouraged will promote sedentarization in the rangeland
- Mr. Mkala clarified when talking about predator proof bomas it is about predation not settlement.
- Madam Zainabu commented an emerging problem of invasive species that is not food for livestock or wildlife. She asked how this could be addressed.
-

The way forward by Mr. Wandera stated a rangeland management plan should be formulated and its implementation should be done with all the stakeholders.

Group 3: Water and Agriculture by Christine Mutwiri - KWS

The question for the group was how to manage water resources to enhance conservation, agriculture, and economic development of Amboseli Ecosystem while reducing conflicts. The group began by identifying the resources and catchment areas and identifying resource users and stakeholders and involve them in management of the resources.

Challenges in the Water and Agriculture Sectors

- Encroachment of the catchment areas
- Abstraction at water eyes
- Illegal over exploitation e.g. pumping, digging of furrows, shallow wells
- Poor farming methods
- Lack of conservation knowledge and ignorance
- Lack of implementation of water and Agriculture related laws
- Climate change
- Marketing of farm produce
- Homogenous agricultural practice
- Conflicts
- Lack of water harvesting techniques and structures
- In adequate data

Solutions

- Zoning and gazettelement of the water resources and catchment areas
- Creating conservation awareness and capacity building
- Enforcement of water and Agriculture and other relevant and related laws
- Involve all resource users and stakeholders in planning and management of the resources
- Adopt climate change mitigation and adaptation methods
- Value addition
- Creating marketing structures and associations to control homogenous
- Form resource users associations and involve upstream, midstream and downstream users
- Capacity building on water harvesting techniques
- Increase hydromet (data on hydrology and metrology) network, water quality sAEMPling points, ground water monitoring boreholes, sedimentation load/silt effluent discharge and also Agriculture and livestock data.

Way forward.

- All the above actions to be incorporated in the AEMP
- Identification and involvement of other conservation agencies and donors
- Collective responsibilities from institutional level to personal level

Reactions

- Water pollution was not in the presentation. Pollution is a cause of different types of cancer. There is a lot of illegal water abstraction in the AE. How can WRMA, WRUA and AET ensure proper distribution of water for wildlife, livestock, farmers, domestic use and tourists? Currently agriculture consumes most of the water.
- Madam Zainabu agreed with the water allocation as a monitoring measure but asked what is to be done to conserve the real source of water, which is tree cover?
- Mr. Musau confirmed water is never enough, illegal abstractions are there and pumps are confiscated. He suggested there should be a pumping water schedule. They carry out a water abstraction survey for surface and ground water. There are rules on how water usage.
- Mr. Ole Sambu said there used to be trees along the rivers but they are no longer there due to clearing land for agriculture and drilling of boreholes. Due to irrigation, wildlife corridors closed down. If generators for pumping water were not allowed then the corridor would be open since farming would not have been possible without the water.
- Mr. Ngigi said the Ministry of Agriculture advocates for sustainable agriculture. They show farmers safe ways of using pesticides and riverbank protection. They work with WRMA to create awareness on conservation but the residents are not so willing to embrace this information. Conservation areas and agricultural land should be identified.
- Mr. Leturesh added that deforestation is causing the water problem. The trees are cut down for charcoal especially in northern Amboseli. The challenge to create awareness on deforestation.

The way forward by Mr. Wandera stated; Set up a water management plan, the AET to share the plan, create awareness on water issues and enforce laws on water and agriculture.

Group 4: Institution Integration by Mr. Evan Mkala - IFAW

The question for the group was how to integrate institutions for the implementation of the AEMP.

Challenges

- Lack of attending meetings leads to disintegration
- Personality of stakeholders
- Poor communication between institutions.
- Conflict of interest and mandate.
- Absence of unifying factor
- Unwillingness to share information
- Competition for limited resources
- Pre informed ideas and perceptions

Solutions

- Create an information centre.
- AET should be strengthened.
- There should be regular stakeholder meetings. Follow up on each other to ensure attendance and productivity.
- AET to come up with ecosystem wide activities such as marathon.
- Promote partnership to reduce overlapping e.g. one stakeholder with the capacity but no funds and another with the funds but no capacity can work together.
- Define the various roles and duties each stakeholder should do.
- Promote education awareness and capacity building through workshops and trainings.

Way forward

- Have a strong management plan that is all-inclusive and in which all stakeholders can ascribe to.

- Have a memorandum of understanding among the stakeholders.

Reactions

- Dr. Sitati said the AET should have an inventory of all the stakeholders. Collaborations are present but should be enhanced and strengthened by exchanging visits for information sharing.

The way forward by Mr. Wandera stated; AET should identify its stakeholders, the AET should be a honest broker so as to be able to be transparent and keep stakeholders together and stakeholders to work together in partnership.

Dr. Mwaura responded to inputs from stakeholders represented He commented he was happy with how the dialogue workshop went on. They have gathered information and proceedings will be prepared and which given by AET to circulate. Habitat Planners have adhered to all objectives of the workshop especially objective two that explains the findings. Stakeholders agreed with the findings, have contributed to a lot of information especially from working gaps and their presentations shall be incorporated into the proceedings thereafter annexed in the report.

The remaining steps for the SEA process are preparation of the proceedings, which will be compiled in December. A draft report will be given to the Core Planning Team to have a look at, give comments before the end of December. In January 2014, the report should be ready for submission to NEMA. If approved by NEMA it will be published nationwide on the newspapers for 1 month for the public to give their comments.

7. CLOSING SESSION

Dr. Sitati thanked Mr. James Ndung'u for facilitating the workshop. He thanked Habitat Planners for a job well done. He thanked AET and KWS for organizing the workshop. Thanked all those who availed themselves to the workshop and for their presentations. Thanked IFAW for greatly contributing to the workshop. Lastly, as a way forward there is a deadline for the EA to be presented to NEMA for the AEMP to gazette by April to be able to implement. He wished those who were travelling back to their homes a safe journey.

Mr. Daniel Leturesh, Chairman of AET who said how at first it was hard to look for experts to do the SEA but was thankful to have found Habitat Planners. He thanked all the participants for coming to the workshop. He requested the stakeholders to pass on the information that they have got from the workshop to others.

He thanked the NGOs for their support and requested for more support from other organizations. There is a shortage of 3 million so commitment is highly needed. He assured the stakeholders when they receive the report from the SEA experts they will circulate it to all on time.

Mr. Leturesh declared the meeting officially closed at 2.08 pm and asked Mr. Kirasi, Chairman of the Game Scouts Association to lead a closing prayer. A group photo was taken with all the participants.

8. ANNEXES

ANNEX I: WORKSHOP PROGRAM

TIME	ACTIVITY
DAY 1	
08.45 – 10.15 am	Registration of participants
10.15 – 10.23 am	Opening Session <ul style="list-style-type: none"> • Opening remarks by Mr. Koikai AET Group Ranch Coordinator • Opening prayer
10.23 - 10.44 am	Background of the Amboseli Ecosystem By Dr. David Western - ACC
10.44 – 11.11 am	Amboseli Ecosystem Land Use Zone - Mr. Peter Mwangi- KWS
11.11 – 11.13 am	Official Opening by Mr. Patiat – PA to Loitokitok Member of Parliament
11.13 – 11.16 am	Brief remarks by Mr. Koikai AET Group Ranch Coordinator
11.16 – 11.44 am	Tea Break
11.44 – 12.43 pm	Findings on the Strategic Environmental Assessment (SEA) for the Amboseli Management Plan by Dr. Mwaura – Habitat Planners
12.43 – 12.46 pm	Energizer by Mr. Karingi – Habitat Planners
12.46 – 01.34 pm	Continuation Findings on the Strategic Environmental Assessment (SEA) for the Amboseli Management Plan by Mr. Wandera – Habitat Planners
01.34 – 01.57 pm	Plenary Discussions
01.57 – 02.55 pm	Lunch Break
02.55 – 04.10 pm	Plenary Discussions
04.10 – 06.00 pm	Break-out group Discussions
DAY 2	
08.00 – 08.45 am	Arrival of participants
08.45 – 12.05 pm	Group work Presentations
12.05 – 12.30 pm	Tea Break
12.30 – 01.33 pm	Group work Presentations
01.33 – 01.49 pm	Remarks by Dr. Mwaura – Habitat Planners
01.49 – 01.58 pm	Closing remarks by Dr. Sitati – AWF
01.58 – 02.05 pm	Closing remarks by Mr. Daniel Leturesh
02.05 – 02.07pm	Closing prayer
02.08 pm	Official closing and group photo

LIST OF PARTICIPANTS

STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) STAKEHOLDERS DIALOGUE WORKSHOP FOR THE AMBOSELI ECOSYSTEM MANAGEMENT PLAN 2008-2018

29TH – 29TH NOVEMBER 2013 AT THE NTAUWUOH PLAZA, LOITOKTOK

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GROUP PHOTO FOR THE WORKSHOP PARTICIPANTS



Appendix 3 - Summary of plan impact analysis

The impact analysis was done using the environmental indicators highlighted in Section 3.8 as displayed in Table 3-2. The findings for the plan impact analysis are summarized below and can be interpreted according to the codes which are given in the table below.

Interpretation codes for the Plan Impact Analysis

Degree/level of impact Impacts	High	Medium	Low
Positive	+++	++	+
Negative	---	--	-
	Ecosystem-wide		
	Amboseli National Park		
	Group Ranch		

1: POTENTIAL IMPACTS

1.1: Ecological Management Program

Plan activity	Physical impacts			
	Range degradation	Land subdivision	Water resources	Climate change mitigation and adaptation
1. Carry out an inventory of natural resources in the group ranches	+++	++ -	+++	++
2. Carry out a land evaluation study for tourism development, livestock production and agriculture	+++	+++	+++	++
3. Carry out land use zoning based on the land evaluation study	+++	++	+++	
4. Organize group ranch level meetings to disseminate the land evaluation study output	++	++	++	++
5. Identify and map charcoal burning hotspots	++			++
6. Disseminate the charcoal burning survey information to the District Environment Committee	++		++	+++
7. Carry out an inventory of key water sources and their water yields			+++	++
8. Carry out a survey of water users for each key water source			+++	

9. Prepare a report on water resource assessment detailing water availability and demand			+++	
10. Carry out a resource inventory of Kimana swAEMP	++	++	+++	
11. Organize stakeholder planning workshops	+	+	+	+
12. Carry out expert studies on water resource assessment, and irrigated farming		+++	+++	
13. Compile Kimana wetland management plan		++	+++	
14. Liaise with the Ministry of Agriculture to sensitize farmers on the importance of soil and water conservation	++		++	+
15. Monitor water quality and quantity at key water points			++	
16. Carry out an environmental audit of Kimana- Kikarankot river system			+++	
17. Carry out an environmental audit of Nolturesh water supply system			+++	
18. Carry out an ecosystem-wide habitat assessment study	+++	+++	+++	
19. Develop computer simulation models of elephant habitat interactions	+++	++	++	
20. Recruit young elephant scientists and deploy them for internship with the AERP	++	++	++	
21. Develop monitoring protocols for cheetah, hyena and wild dogs	+	+		
22. Monitor population status and distribution of cheetah, hyena and wild dogs	+	+		
23. Carry out spatial GIS modeling of suitable carnivore conservation zones using geo-referenced carnivore movement data	+	+		
24. Develop a GIS based data collection tool	+	+	+	+
25. Train KWS rangers and community game scouts on use of the conflict data collection tool				++
26. Design a Human-carnivore conflict GIS database	+	+		
27. Implement the human-carnivore conflict database	+	++		
28. Train AE researchers on the human-carnivore conflict database		++		
29. Liaise with KWS Vet department in sAEMPing carnivores for disease pathogens				
30. Support Ministry of Livestock in its efforts to vaccinate domestic dogs against rabies				
31. Develop terms of reference for the habitat assessment study	+	+	+	+
32. Identify a competent wildlife ecologist to carry out the habitat assessment study	+	+	+	+
33. Implement the study in collaboration with the KWS Rhino programme	++	++		
34. Organize KWS/MPT meetings to discuss a collaborative MOU	++	++	++	
35. Draw and sign an MOU on collaboration in rhino monitoring	+	+		
36. Train community game scouts in KWS Rhino monitoring protocols	++	+		
37. Identify suitable sites for establishment of wildlife water points				+
38. Construct wildlife water points				
39. Deploy a research scientist to ANP				
40. Identify research equipment and facilities required to initiate an ecological research and monitoring system	++	+		
41. Procure research equipment	++	+		
42. Carry out a comprehensive inventory of research work that has been carried out in Amboseli	+++	+++	+++	+++
43. Collect all the available published and unpublished research documents on Amboseli	+++	+++	+++	+++
44. Develop a digital research library for Amboseli documents	+++	+++	+++	+++
45. Organize a transboundary research meeting for researchers in the Amboseli-Kilimanjaro and Tsavo-Mkomazi ecosystems	+++	+++	+++	+++
46. Develop terms of reference for the transboundary research	+++	+++	+++	+++

coordinating committee				
47. Hold regular research coordination meetings	+++	+++	+++	+++
48. Establish a biomass monitoring programme using remote sensing data	+++	+++	+++	+++
49. Establish transects to monitor impacts of elephants of woody vegetation outside ANP	+	+		
50. Monitor elephant impacts on the woody vegetation semi-annually	++	+		
51. Organize a research meeting to identify priority research areas for Amboseli	++	++	++	++
52. Create awareness on identified research opportunities through the internet	+	+	+	+

Plan activity	Biological impacts					
	Protection of wildlife corridors	Protection of threatened species	Protection of springs and wetlands	Sustenance and expansion of conservancies	Ecosystem connectivity	Environmental rehabilitation
1. Carry out an inventory of natural resources in the group ranches	++	+	+	++	+	+
2. Carry out a land evaluation study for tourism development, livestock production and agriculture	+	++		+	+	+
3. Carry out land use zoning based on the land evaluation study	+++	++	+	++	+	++
4. Organize group ranch level meetings to disseminate the land evaluation study output	+	+	+	+	+++	+
5. Identify and map charcoal burning hotspots	+++	+++	+++	++	+	+++
6. Disseminate the charcoal burning survey information to the District Environment Committee	+	+	+	+	+	+
7. Carry out an inventory of key water sources and their water yields	+++	+++	+++	+	++	+
8. Carry out a survey of water users for each key water source	+	+	++	+	+	
9. Prepare a report on water resource assessment detailing water availability and demand	+	+	++	+	+	
10. Carry out a resource inventory of Kimana swAEMP			++	+	+	
11. Organize stakeholder planning workshops	+	+	+	+	+	+

12. Carry out expert studies on water resource assessment, and irrigated farming			+++	++	+++	++
13. Compile Kimana wetland management plan			+++			
14. Liaise with the Ministry of Agriculture to sensitize farmers on the importance of soil and water conservation			+++			+
15. Monitor water quality and quantity at key water points			++			
16. Liaise with the Ministry of Agriculture to sensitize farmers on the importance of soil and water conservation			+++		++	+
17. Carry out an environmental audit of Kimana- Kikarankot river system			+++			
18. Carry out an environmental audit of Nolturesh water supply system			+++			
19. Carry out an ecosystem-wide habitat assessment study	++	+	+	+	+++	+
20. Develop computer simulation models of elephant habitat interactions	+++	+++			++	
21. Recruit young elephant scientists and deploy them for internship with the AERP	++	++			+	+
22. Develop monitoring protocols for cheetah, hyena and wild dogs		+++				
23. Monitor population status and distribution of cheetah, hyena and wild dogs		+++				
24. Carry out spatial GIS modeling of suitable carnivore conservation zones using geo-referenced carnivore movement data		+++				
25. Develop a GIS based data collection tool	+	+	+	+	+	+
26. Train KWS rangers and community game scouts on use of the conflict data collection tool	+	+		+	+	
27. Design a Human-carnivore conflict GIS database	+	+	+	+	+	
28. Implement the human-carnivore conflict database		+				
29. Train AE researchers on the human-carnivore conflict database		+		+		

30. Liaise with KWS Vet department in sAEMPling carnivores for disease pathogens		++				
31. Support Ministry of Livestock in its efforts to vaccinate domestic dogs against rabies						
32. Develop terms of reference for the habitat assessment study	+	+	+	+	+	
33. Identify a competent wildlife ecologist to carry out the habitat assessment study	+	+	+	+	+	
34. Implement the study in collaboration with the KWS Rhino programme	++	++		++	++	
35. Organize KWS/MPT meetings to discuss a collaborative MOU	++	++	+	++	+++	
36. Draw and sign an MOU on collaboration in rhino monitoring	+	+		+	+	
37. Train community game scouts in KWS Rhino monitoring protocols	++	+++		++	++	
38. Identify suitable sites for establishment of wildlife water points	+	+	+++	++		++
39. Construct wildlife water points		++	+++			
40. Deploy a research scientist to ANP	++	++	++	++	++	++
41. Identify research equipment and facilities required to initiate an ecological research and monitoring system	+	+	+	+	+	+
42. Procure research equipment	+	+	+	+	+	+
43. Carry out a comprehensive inventory of research work that has been carried out in Amboseli	+	+	+	+	+	+
44. Collect all the available published and unpublished research documents on Amboseli	+	+	+	+	+	+
45. Develop a digital research library for Amboseli documents	+	+	+	+	+	+
46. Organize a transboundary research meeting for researchers in the Amboseli-Kilimanjaro and Tsavo-Mkomazi ecosystems	+++	+++		+++	+++	

47. Develop terms of reference for the transboundary research coordinating committee						
48. Hold regular research coordination meetings					++	
49. Establish a biomass monitoring programme using remote sensing data	++	++		++	++	+++
50. Establish transects to monitor impacts of elephants of woody vegetation outside ANP	+++	++	++	+++	++	
51. Monitor elephant impacts on the woody vegetation semi-annually	++	+++		+++	++	
52. Organize a research meeting to identify priority research areas for Amboseli	++	++	++	++	++	++
53. Create awareness on identified research opportunities through the internet	+	+	+	+	++	+

Plan activity	Social impacts		
	Sustainable alternative livelihoods	Poverty reduction	Conflict alleviation
1. Carry out an inventory of natural resources in the group ranches	++	+	+
2. Carry out a land evaluation study for tourism development, livestock production and agriculture	+	+	+
3. Carry out land use zoning based on the land evaluation study	+	++	+
4. Organize group ranch level meetings to disseminate the land evaluation study output			+
5. Identify and map charcoal burning hotspots	+	+	+
6. Disseminate the charcoal burning survey information to the District Environment Committee	--	-	--
7. Carry out an inventory of key water sources and their water yields	+		+
8. Carry out a survey of water users for each key water source			++
9. Prepare a report on water resource assessment detailing water availability and demand			++
10. Carry out a resource inventory of Kimana swAEMP			+++
11. Organize stakeholder planning workshops	+	+	+
12. Carry out expert studies on water resource assessment, and irrigated farming	+	+	+
13. Compile Kimana wetland management plan	+		++
14. Liaise with the Ministry of Agriculture to sensitize farmers on the importance of soil and water conservation	+	++	++
15. Monitor water quality and quantity at key water points			

16. Carry out an environmental audit of Kimana- Kikarankot river system			+++
17. Carry out an environmental audit of Nol Turesh water supply system			+++
18. Carry out an ecosystem-wide habitat assessment study			++
19. Develop computer simulation models of elephant habitat interactions	++		++
20. Recruit young elephant scientists and deploy them for internship with the AERP			++
21. Develop monitoring protocols for cheetah, hyena and wild dogs			+++
22. Monitor population status and distribution of cheetah, hyena and wild dogs			+++
23. Carry out spatial GIS modeling of suitable carnivore conservation zones using geo-referenced carnivore movement data			+++
24. Develop a GIS based data collection tool			+++
25. Train KWS rangers and community game scouts on use of the conflict data collection tool			+++
26. Design a Human-carnivore conflict GIS database			+++
27. Implement the human-carnivore conflict database			+++
28. Train AE researchers on the human-carnivore conflict database			+++
29. Liaise with KWS Vet department in sAEMPling carnivores for disease pathogens			+++
30. Support Ministry of Livestock in its efforts to vaccinate domestic dogs against rabies			+
31. Develop terms of reference for the habitat assessment study			
32. Identify a competent wildlife ecologist to carry out the habitat assessment study			++
33. Implement the study in collaboration with the KWS Rhino programme			++
34. Organize KWS/MPT meetings to discuss a collaborative MOU	++		++
35. Draw and sign an MOU on collaboration in rhino monitoring			+++
36. Train community game scouts in KWS Rhino monitoring protocols			+++
37. Identify suitable sites for establishment of wildlife water points	+++		
38. Construct wildlife water points			---
39. Deploy a research scientist to ANP	++		+++
40. Identify research equipment and facilities required to initiate an ecological research and monitoring system			
41. Procure research equipment	+++	+++	+++
42. Carry out a comprehensive inventory of research work that has been carried out in Amboseli	+	+	+
43. Collect all the available published and unpublished research documents on Amboseli	+	+	+
44. Develop a digital research library for Amboseli documents	+	+	+
45. Organize a transboundary research meeting for researchers in the Amboseli-Kilimanjaro and Tsavo-Mkomazi ecosystems			+++

46. Develop terms of reference for the transboundary research coordinating committee			++
47. Hold regular research coordination meetings	+	+	+
48. Establish a biomass monitoring programme using remote sensing data	+	+	+
49. Establish transects to monitor impacts of elephants of woody vegetation outside ANP	+		+++
50. Monitor elephant impacts on the woody vegetation semi-annually	+		+++
51. Organize a research meeting to identify priority research areas for Amboseli	++	++	++
52. Create awareness on identified research opportunities through the internet	+	+	+

Plan activity	Economic impacts		
	Equitable ecosystem benefit sharing	Boosting county economy	Boosting Vision 2030
1. Carry out an inventory of natural resources in the group ranches	+++	++	+++
2. Carry out a land evaluation study for tourism development, livestock production and agriculture	++	+++	+++
3. Carry out land use zoning based on the land evaluation study	++		
4. Organize group ranch level meetings to disseminate the land evaluation study output	++		
5. Identify and map charcoal burning hotspots			
6. Disseminate the charcoal burning survey information to the District Environment Committee			
7. Carry out an inventory of key water sources and their water yields	++		
8. Carry out a survey of water users for each key water source	+++		
9. Prepare a report on water resource assessment detailing water availability and demand	++		
10. Carry out a resource inventory of Kimana swAEMP	+++		
11. Organize stakeholder planning workshops	+	+	+
12. Carry out expert studies on water resource assessment, and irrigated farming	+	+	
13. Compile Kimana wetland management plan	+	+	+
14. Liaise with the Ministry of Agriculture to sensitize farmers on the importance of soil and water conservation			
15. Monitor water quality and quantity at key water points			
16. Liaise with the Ministry of Agriculture to sensitize farmers on the importance of soil and water conservation			
17. Carry out an environmental audit of Kimana- Kikarankot river system	+	+	+
18. Carry out an environmental audit of Nol Turesh water supply system	+	+	+
19. Carry out an ecosystem-wide habitat assessment study	+	+	+
20. Develop computer simulation models of elephant habitat interactions	+	+	+

21. Recruit young elephant scientists and deploy them for internship with the AERP	+	+	+
22. Develop monitoring protocols for cheetah, hyena and wild dogs		+	+
23. Monitor population status and distribution of cheetah, hyena and wild dogs			
24. Carry out spatial GIS modeling of suitable carnivore conservation zones using geo-referenced carnivore movement data		+	+
25. Develop a GIS based data collection tool	+	+	+
26. Train KWS rangers and community game scouts on use of the conflict data collection tool			
27. Design a Human-carnivore conflict GIS database			
28. Implement the human-carnivore conflict database			
29. Train AE researchers on the human-carnivore conflict database			
30. Liaise with KWS Vet department in sAEMPing carnivores for disease pathogens			
31. Support Ministry of Livestock in its efforts to vaccinate domestic dogs against rabies			
32. Develop terms of reference for the habitat assessment study			
33. Identify a competent wildlife ecologist to carry out the habitat assessment study	+	+	+
34. Implement the study in collaboration with the KWS Rhino programme		+	+
35. Organize KWS/MPT meetings to discuss a collaborative MOU	+	+	+
36. Draw and sign an MOU on collaboration in rhino monitoring	+	+	+
37. Train community game scouts in KWS Rhino monitoring protocols	+	+	+
38. Identify suitable sites for establishment of wildlife water points	+++		
39. Construct wildlife water points	+++		
40. Deploy a research scientist to ANP			
41. Identify research equipment and facilities required to initiate an ecological research and monitoring system			
42. Procure research equipment			
43. Carry out a comprehensive inventory of research work that has been carried out in Amboseli	+	+	+
44. Collect all the available published and unpublished research documents on Amboseli	+	+	+
45. Develop a digital research library for Amboseli documents	+	+	+
46. Organize a transboundary research meeting for researchers in the Amboseli-Kilimanjaro and Tsavo-Mkomazi ecosystems	+	+	+
47. Develop terms of reference for the transboundary research coordinating committee			
48. Hold regular research coordination meetings			
49. Establish a biomass monitoring programme using remote sensing data	++	+	+
50. Establish transects to monitor impacts of elephants on woody vegetation outside ANP	+	+	+
51. Monitor elephant impacts on the woody vegetation semi-annually	+	+	+
52. Organize a research meeting to identify priority research areas for Amboseli	+	+	+
53. Create awareness on identified research opportunities through the internet	+	+	+

Plan activity	Institutional and transboundary impacts, international implications and public interest				
	Regional cohesion and partnerships	Implementation of MEAs	Public interests	Institutional responsibility and capacity	Integration of all development sectors
1. Carry out an inventory of natural resources in the group ranches		+++	++		++
2. Carry out a land evaluation study for tourism development, livestock production and agriculture		+++	++	++	++
3. Carry out land use zoning based on the land evaluation study		+++	++	+++	+++
4. Organize group ranch level meetings to disseminate the land evaluation study output			+++		++
5. Identify and map charcoal burning hotspots			++	++	
6. Disseminate the charcoal burning survey information to the District Environment Committee					++
7. Carry out an inventory of key water sources and their water yields			++	++	++
8. Carry out a survey of water users for each key water source			++	++	++
9. Prepare a report on water resource assessment detailing water availability and demand			++	++	++
10. Carry out a resource inventory of Kimana swAEMP		+++	++	++	++
11. Organize stakeholder planning workshops	+	+	+	+	+
12. Carry out expert studies on water resource assessment, and irrigated farming	+	+	+	+	+
13. Compile Kimana wetland management plan		+++	++	++	++
14. Liaise with the Ministry of Agriculture to sensitize farmers on the importance of soil and water conservation			+		
15. Monitor water quality and quantity at key water points			+		
16. Liaise with the Ministry of Agriculture to sensitize farmers on the importance of soil and water conservation			+		
17. Carry out an environmental audit of Kimana- Kikarankot river system		++	++	++	++
18. Carry out an environmental audit of Nol Turesh water supply system		++	++	++	++
19. Carry out an ecosystem-wide habitat assessment study	++	++	++	++	++

20. Develop computer simulation models of elephant habitat interactions	++	++	++	++	++
21. Recruit young elephant scientists and deploy them for internship with the AERP	++	++	++	++	++
22. Develop monitoring protocols for cheetah, hyena and wild dogs	++	++	++	++	++
23. Monitor population status and distribution of cheetah, hyena and wild dogs					
24. Carry out spatial GIS modeling of suitable carnivore conservation zones using geo-referenced carnivore movement data	++	++	++	++	++
25. Develop a GIS based data collection tool	++	++	++	++	++
26. Train KWS rangers and community game scouts on use of the conflict data collection tool				++	++
27. Design a Human-carnivore conflict GIS database				++	++
28. Implement the human-carnivore conflict database				++	++
29. Train AE researchers on the human-carnivore conflict database				++	++
30. Liaise with KWS Vet department in sAEMPling carnivores for disease pathogens				++	
31. Support Ministry of Livestock in its efforts to vaccinate domestic dogs against rabies				++	
32. Develop terms of reference for the habitat assessment study					
33. Identify a competent wildlife ecologist to carry out the habitat assessment study				++	++
34. Implement the study in collaboration with the KWS Rhino programme				++	++
35. Organize KWS/MPT meetings to discuss a collaborative MOU			++	++	++
36. Draw and sign an MOU on collaboration in rhino monitoring		+++	++	++	++
37. Train community game scouts in KWS Rhino monitoring protocols		+++	++	++	++
38. Identify suitable sites for establishment of wildlife water points					
39. Construct wildlife water points					
40. Deploy a research scientist to ANP					
41. Identify research equipment and facilities required to initiate an ecological research and monitoring					

system					
42. Procure research equipment					
43. Carry out a comprehensive inventory of research work that has been carried out in Amboseli	+	+	+	+	+
44. Collect all the available published and unpublished research documents on Amboseli	+	+	+	+	+
45. Develop a digital research library for Amboseli documents	+	+	+	+	+
46. Organize a transboundary research meeting for researchers in the Amboseli-Kilimanjaro and Tsavo-Mkomazi ecosystems	+++	+	+	+	+
47. Develop terms of reference for the transboundary research coordinating committee					
48. Hold regular research coordination meetings			++	++	++
49. Establish a biomass monitoring programme using remote sensing data			++	++	++
50. Establish transects to monitor impacts of elephants on woody vegetation outside ANP			++	++	++
51. Monitor elephant impacts on the woody vegetation semi-annually			++	++	++
52. Organize a research meeting to identify priority research areas for Amboseli		++	++	++	++
53. Create awareness on identified research opportunities through the internet		++	++	++	++

1.2: Tourism Development and Management Program

Plan activity	Physical impacts			
	Range degradation	Land subdivision	Water resources	Climate change mitigation and adaptation ¹
1. Liaise with the Ministry of Lands to initiate a regional land use planning process for the greater Amboseli ecosystem	+	+	+	
2. Carry out a regional land use inventory				
3. Organize regional land use planning meetings				
4. Compile a regional land use plan				
5. Hold stakeholder meetings to negotiate incentives to tourism investors				
6. Develop terms of reference for the land evaluation study				

¹Complex issue

7. Procure professional services to conduct the land evaluation study				
8. Develop terms of reference for the tourism development plans	+		+	+
9. Provide tourism technical assistance to group ranches ²	+	+	+	+
10. Hold group ranch level tourism planning meetings	+	+	+	+
11. Develop tourism monitoring protocols				
12. Carry out visitor satisfaction surveys				
13. Liaise with NEMA to appoint an Amboseli resident researcher as an Environmental Inspector	+++		++	++
14. Hold meetings to establish an AE tourism committee				
15. Hold regular AE tourism committee meetings	+	+	+	+
16. Liaise with the Ministry of Forestry and Wildlife to increase entry fees to Amboseli NP ³	+4			+5
17. Hold group ranch/tourism investor consultative meetings to renegotiate leases	++	+	+	+
18. Draw and register new leases on concession area	++	+6		++
19. Identify traditional homesteads that can accommodate cultural tourists	+			+
20. Market home stays and cultural events through the media and internet ⁷	+			+
21. Liaise with the Ministry of Tourism in registering suitable homesteads as 'home stays'	+			+
22. Hold consultative meetings for purposes of establishing the Cultural Center Association (CCA)	+			+
23. Train cultural center operators on tour guiding ⁸	+	+	+	+
24. Develop the CCA's Constitution and register the Association	+			+

² Increase knowledge on sustainable tourism principles

³ Although price is a tool to discourage visitation, the extent to which it can be achieved in a small protected area such as ANP is questionable bearing in mind that most tourists are international tourists who will visit any way. My own view is that can only work to a certain point whereby other strategies such as controlling no. of visitors per day in a way similar to guerrilla tourism in Uganda which would divert tourists to conservancies outside the PA

⁴ This is assuming that (i) range degradation is as a result of over-visitation (ii) Price increase leads to fewer tourists

⁵ Increasing prices or controlling visitor management may lead to a spread of tourists to other attractions in the ecosystem away from the PA to community conservancies

⁶ New leases many favour communal ownership but is also pegged on governance issues such as equity, accountability etc However, newer approaches to leases as pioneered by AWF & IFAW on subdivided lands may also apply

⁷ These are avenues that bring direct benefits to community members which may led to higher preservation of natural resources[also for s/no. 19-22]

⁸ The assumption is that they are from the local community

25. Liaise with major tour operators to solicit for clients and to agree on mode of payment for entry to the cultural centers	+			
26. Identify suitable sites for establishment of curio shops ⁹	+			
27. Develop curio shop designs that interpret the ecosystem values	+			
28. Liaise with group ranches and other stakeholders in the construction of the curio shops				
29. Identify suitable sites for construction of the Visitor Center	+			
30. Develop Visitor Center designs that interpret ecosystem values ¹⁰	+			+
31. Carry out an Environmental Impact Assessment for the Sites and select the best site	++			++
32. Fundraise for the construction of the Visitor Center				
33. Construct the visitor center ¹¹	-			-
34. Establish information centers at Iremito, OIkelunyiet, Meshanani and Empusel (Airstrip) gates				
35. Stock the information centers with adequate tourist maps and brochures ¹²				
36. Identify and map feasible safari routes	++			+
37. Develop designs for walking trails at Imerishari and Kitirua Hills	+			
38. Construct walking trails at Imerishari and Kitirua Hills	-			-
39. Identify opportunities for volunteer tourism				
40. Prepare advertising materials and advertise the volunteer programme in the internet				
41. Develop and market tourist Bandas at the Losikutok conservation area in Mbirikani	-			-
42. Market the Community Bandas in Ologulului/Olorarashi group ranch	-			-
43. Prepare radio and TV programmes on Amboseli ¹³	+		+	+
44. Prepare newspaper/s articles on Amboseli	+			+
45. Update the KWS Amboseli web page by including current content ¹⁴ on Amboseli	+		+	+

⁹Site selection would take ecological conditions & resilience into consideration therefore, range degradation climate change....

¹⁰Common initiatives/interventions may lead to visitors engaging in Sustainable tourism practices e.g. avoid off road driving

¹¹Every act has a negative impact (also for next s/no.)

¹²Assuming brochures & maps are packed with information informed by sustainable tourism principles and practices & also in-line with EIA

¹³This may be an effective sensitization avenue for environmental issues & is linked to identity theories since people will always want positive publicity and may act as such. However, this is debatable since it may be short-term

ecosystem				
46. Map key tourist sites in the AE	+		+	+
47. Produce a tourist map for the entire ecosystem	+		+	+
48. Produce a tourist guide book for the entire ecosystem	+		+	+
49. Hold Amboseli marathon annually ¹⁵	+			

Plan activity	Biological impacts					
	Protection of wildlife corridors	Protection of threatened species	Protection of springs and wetlands	Sustenance and expansion of conservancies	Ecosystem ¹⁶ Connectivity?	Environmental rehabilitation
1. Liaise with the Ministry of Lands to initiate a regional land use planning process for the greater Amboseli ecosystem	++	++	++	++	++	++
2. Carry out a regional land use inventory				+		
3. Organize regional land use planning meetings				+		
4. Compile a regional land use plan				+		
5. Hold stakeholder meetings to negotiate incentives to tourism investors				+		
6. Develop terms of reference for the land evaluation study						
7. Procure professional services to conduct the land evaluation study				+		
8. Develop terms of reference for the tourism development plans	+	+		+		
9. Provide tourism technical assistance to group ranches	+	+		+		
10. Hold group ranch level tourism planning meetings	+	+		+		
11. Develop tourism monitoring protocols						
12. Carry out visitor satisfaction surveys						
13. Liaise with NEMA to appoint an Amboseli resident researcher as an Environmental	+	+		+		

¹⁴ This is dependent on the content included & the target audience especially on the GR subdivision matters

¹⁵ Pegged on the assumption that funds raised are used to incentivize local communities

Inspector						
14. Hold meetings to establish an AE tourism committee	+	+		+		
15. Hold regular AE tourism committee meetings	+	+		+		
16. Liaise with the Ministry of Forestry and Wildlife to increase entry fees for Amboseli	+	+		+		
17. Hold group ranch/tourism investor consultative meetings to renegotiate leases	+	+		+		
18. Draw and register new leases on concession area						
19. Identify traditional homesteads that can accommodate cultural tourists						
20. Market the Home stays and cultural events through the media and internet						
21. Liaise with the Ministry of Tourism in registering suitable homesteads as 'home stays'	+	+		+		
22. Hold consultative meetings for purposes of establishing the Cultural Center Association (CCA						
23. Train cultural center operators on tour guiding,	+	+		+		
24. Hold consultative meetings for purposes of establishing the Cultural Center Association (CCA)						
25. Develop the CCA's Constitution and register the Association						
26. Liaise with major tour operators to solicit for clients and to agree on mode of payment for entry to the cultural centers						
27. Identify suitable sites for establishment of curio shops	+	+		+		
28. Develop curio shop	+	+		+		

designs that interpret the ecosystem values						
29. Liaise with group ranches and other stakeholders in the construction of the curio shops	+	+		+		
30. Identify suitable sites for construction of the Visitor Center	+	+		+		
31. Develop Visitor Center designs that interpret ecosystem values	+	+		+		
32. Carry out an Environmental Impact Assessment for the Sites and select the best site						
33. Fundraise for the construction of the Visitor Center						
34. Construct the visitor center						
35. Establish information centers at Iremito, OlKelunyiet, Meshanani and Empusel (Airstrip) gates						
36. Stock the information centers with adequate tourist maps and brochures						
37. Identify and map feasible safari routes	+	+		+		
38. Develop designs for walking trails at Imerishari and Kitirua Hills	+	+		+		
39. Construct walking trails at Imerishari and Kitirua Hills	+	+		+		
40. Identify opportunities for volunteer tourism						
41. Prepare advertising materials and advertise the volunteer programme in the internet						
42. Develop and market tourist Bandas at the Losikutok conservation area in Mbirikani						
43. Market the Community Bandas in OlgululuiOlorarashi	+	+		+		

group ranch						
44. Prepare radio and TV programmes on Amboseli	+	+		+		
45. Prepare newspaper articles on Amboseli						
46. Update the KWS Amboseli web page by including current content						
47. Map key tourist sites in the AE						
48. Produce a tourist map for the entire ecosystem						
49. Produce a tourist guide book for the entire ecosystem						
49. Hold Amboseli marathon annually	+	+		+		

Plan activity	Social impacts ¹⁷		
	Sustainable alternative livelihoods	Poverty reduction	Conflict alleviation
1. Liaise with the Ministry of Lands to initiate a regional land use planning process for the greater Amboseli ecosystem	++	+	++
2. Carry out a regional land use inventory	+	+	+
3. Organize regional land use planning meetings	+	+	+
4. Compile a regional land use plan	+	+	+
5. Hold stakeholder meetings to negotiate incentives to tourism investors	+	+	+
6. Develop terms of reference for the land evaluation study	+	+	+
7. Procure professional services to conduct the land evaluation study	+	+	+
8. Develop terms of reference for the tourism development plans	+	+	+
9. Provide tourism technical assistance to group ranches	+	+	+
10. Hold group ranch level tourism planning meetings	+	+	+
11. Develop tourism monitoring protocols	+	+	+
12. Carry out visitor satisfaction surveys			
13. Liaise with NEMA to appoint an Amboseli resident researcher as an Environmental Inspector			
14. Hold meetings to establish an AE tourism committee			
15. Hold regular AE tourism committee meetings			
16. Liaise with the Ministry of Forestry and Wildlife to increase entry fees for Amboseli ¹⁸	++		
17. Hold group ranch/tourism investor consultative meetings to renegotiate leases ¹⁹	+		
18. Draw and register new leases on concession area ²⁰	+		

¹⁷Being social brings-in complexity of quantification. However,

¹⁸ Assuming redistribution of tourists from PA to GRs

¹⁹ Dependent on how governance issues are addressed

19. Identify traditional homesteads that can accommodate cultural tourists	+	+	
20. Market the Home stays and cultural events through the media and internet	+		
21. Liaise with the Ministry of Tourism in registering suitable homesteads as 'home stays'			
22. Hold consultative meetings for purposes of establishing the Cultural Center Association (CCA)			
23. Train cultural center operators on tour guiding,	+	+	
24. Hold consultative meetings for purposes of establishing the Cultural Center Association (CCA)			
25. Develop the CCA's Constitution and register the Association	+	+	
26. Liaise with major tour operators to solicit for clients and to agree on mode of payment for entry to the cultural centers	+	+	
27. Identify suitable sites for establishment of curio shops			
28. Develop curio shop designs that interpret the ecosystem values			
29. Liaise with group ranches and other stakeholders in the construction of the curio shops			
30. Identify suitable sites for construction of the Visitor Center			
31. Develop Visitor Center designs that interpret ecosystem values			
32. Carry out an Environmental Impact Assessment for the Sites and select the best site			
33. Fundraise for the construction of the Visitor Center			
34. Construct the visitor center	+	+	+
35. Establish information centers at Iremito, OIkelunyiet, Meshanani and Empusel (Airstrip) gates ²¹			
36. Stock the information centers with adequate tourist maps and brochures			
37. Identify and map feasible safari routes			
38. Develop designs for walking trails at Imerishari and Kitirua Hills	+	+	
39. Construct walking trails at Imerishari and Kitirua Hills	+	+	
40. Identify opportunities for volunteer tourism			
41. Prepare advertising materials and advertise the volunteer programme in the internet			
42. Develop and market tourist Bandas at the Losikutok conservation area in Mbirikani	+	+	
43. Market the Community Bandas in Ologulului/Olorarashi group ranch	+	+	
44. Prepare radio and TV programmes on Amboseli			
45. Prepare newspaper articles on Amboseli			
46. Update the KWS Amboseli web page by including current content			
47. Map key tourist sites in the AE			
48. Produce a tourist map for the entire ecosystem			
49. Produce a tourist guide book for the entire ecosystem			
49. Hold Amboseli marathon annually ²²	+	+	+

²⁰ see above comment

²¹Related to employment and human capital (where training is done)

²²Assumptions: marathon proceeds go to local community members; organization, marketing & promotion are packed with conservation-rich messages linked to cultural inclinations, communities are involved in planning of the marathon for them to own it (pride/identity/stewardship).

Plan activity	Economic impacts		
	Equitable ecosystem benefit sharing	Boosting county economy	Boosting Vision 2030
1. Liaise with the Ministry of Lands to initiate a regional land use planning process for the greater Amboseli ecosystem	+	+	+
2. Carry out a regional land use inventory	+	+	+
3. Organize regional land use planning meetings	+	+	+
4. Compile a regional land use plan	+	+	+
5. Hold stakeholder meetings to negotiate incentives to tourism investors	++	++	++
6. Develop terms of reference for the land evaluation study			
7. Procure professional services to conduct the land evaluation study			
8. Develop terms of reference for the tourism development plans	+	+	+
9. Provide tourism technical assistance to group ranches	+++	+++	+++
10. Hold group ranch level tourism planning meetings	+	+	+
11. Develop tourism monitoring protocols			
12. Carry out visitor satisfaction surveys			
13. Liaise with NEMA to appoint an Amboseli resident researcher as an Environmental Inspector			
14. Hold meetings to establish an AE tourism committee	+	+	+
15. Hold regular AE tourism committee meetings			
16. Liaise with the Ministry of Forestry and Wildlife to increase entry fees for Amboseli ²³	+	+	
17. Hold group ranch/tourism investor consultative meetings to renegotiate leases	++	++	
18. Draw and register new leases on concession area	++	++	
19. Identify traditional homesteads that can accommodate cultural tourists	++	++	
20. Market the Home stays and cultural events through the media and internet	++	++	
21. Liaise with the Ministry of Tourism in registering suitable homesteads as 'home stays'	++	++	
22. Hold consultative meetings for purposes of establishing the Cultural Center Association (CCA)	++	++	
23. Train cultural center operators on tour guiding,	++	++	
24. Hold consultative meetings for purposes of establishing the Cultural Center Association (CCA)	++	++	+
25. Develop the CCA's Constitution and register the Association	++	++	+
26. Liaise with major tour operators to solicit for clients and to agree on mode of payment for entry to the cultural centers	++	++	+
27. Identify suitable sites for establishment of curio shops			
28. Develop curio shop designs that interpret the ecosystem values			
29. Liaise with group ranches and other stakeholders in the construction of the curio shops			
30. Identify suitable sites for construction of the Visitor Center			
31. Develop Visitor Center designs that interpret ecosystem values			
32. Carry out an Environmental Impact Assessment for the			

²³See previous related comment/s

Sites and select the best site			
33. Fundraise for the construction of the Visitor Center			
34. Construct the visitor center	++	++	
35. Establish information centers at Iremito, OIkelunyiet, Meshanani and Empusel (Airstrip) gates			
36. Stock the information centers with adequate tourist maps and brochures			
37. Identify and map feasible safari routes			
38. Develop designs for walking trails at Imerishari and Kitirua Hills			
39. Construct walking trails at Imerishari and Kitirua Hills	++	++	
40. Identify opportunities for volunteer tourism			
41. Prepare advertising materials and advertise the volunteer programme in the internet			
42. Develop and market tourist Bandas at the Losikutok conservation area in Mbirikani	++	++	+
43. Market the Community Bandas in OlgululuiOlorarashi group ranch ²⁴	++	++	+
44. Prepare radio and TV programmes on Amboseli	+	+	+
45. Prepare newspaper articles on Amboseli	+	+	+
46. Update the KWS Amboseli web page by including current content	+	+	+
47. Map key tourist sites in the AE	+	+	+
48. Produce a tourist map for the entire ecosystem	+	+	+
49. Produce a tourist guide book for the entire ecosystem	+	+	+
49. Hold Amboseli marathon annually	++	++	+

Plan activity ²⁵	Institutional and transboundary impacts, international implications and public interest				
	Regional cohesion and partnerships	Implementation of MEAs	Public interests	Institutional responsibility and capacity	Integration of all development sectors
1. Liaise with the Ministry of Lands to initiate a regional land use planning process for the greater Amboseli ecosystem	++	+	+	+	+
2. Carry out a regional land use inventory	++	+	+	+	+
3. Organize regional land use planning meetings	++	+	+	+	+
4. Compile a regional land use plan	++	+	+	+	+
5. Hold stakeholder meetings to negotiate incentives to tourism investors					
6. Develop terms of reference for the land evaluation study					
7. Procure professional services to conduct the land evaluation study	+	+			+
8. Develop terms of reference for the tourism development plans	+				
9. Provide tourism technical assistance to group ranches	+		+	+	

²⁴Tourism is information dependent therefore any form of marketing and/or promotion may result in positive outcome [for s/n 41-49]

²⁵ - When not indicated, I was not sure how many of these statements relate to regionality

10. Hold group ranch level tourism planning meetings			+		
11. Develop tourism monitoring protocols			+		
12. Carry out visitor satisfaction surveys	+	+	+		
13. Liaise with NEMA to appoint an Amboseli resident researcher as an Environmental Inspector		+	+		
14. Hold meetings to establish an AE tourism committee	+		+		
15. Hold regular AE tourism committee meetings	+		+		
16. Liaise with the Ministry of Forestry and Wildlife to increase entry fees for Amboseli					
17. Hold group ranch/tourism investor consultative meetings to renegotiate leases	+	+	+		
18. Draw and register new leases on concession area			+		
19. Identify traditional homesteads that can accommodate cultural tourists			+		
20. Market the Home stays and cultural events through the media and internet			+		
21. Liaise with the Ministry of Tourism in registering suitable homesteads as 'home stays'			+		
22. Hold consultative meetings for purposes of establishing the Cultural Center Association (CCA)	+		+		
23. Train cultural center operators on tour guiding,	+		+		
24. Hold consultative meetings for purposes of establishing the Cultural Center Association (CCA)	+		+		
25. Develop the CCA's Constitution and register the Association	+		+		
26. Liaise with major tour operators to solicit for clients and to agree on mode of payment for entry to the cultural centers					
27. Identify suitable sites for establishment of curio shops					
28. Develop curio shop designs that interpret the ecosystem values					
29. Liaise with group ranches and other stakeholders in the construction of the curio shops					
30. Identify suitable sites for construction of the Visitor Center					
31. Develop Visitor Center designs that interpret ecosystem values					
32. Carry out an Environmental Impact Assessment for the Sites and select the best site		+			
33. Fundraise for the construction of the Visitor Center					

34. Construct the visitor center					
35. Establish information centers at Iremito, OlKelunyiet, Meshanani and Empusel (Airstrip) gates					
36. Stock the information centers with adequate tourist maps and brochures					
37. Identify and map feasible safari routes					
38. Develop designs for walking trails at Imerishari and Kitirua Hills					
39. Construct walking trails at Imerishari and Kitirua Hills					
40. Identify opportunities for volunteer tourism					
41. Prepare advertising materials and advertise the volunteer programme in the internet					
42. Develop and market tourist Bandas at the Losikutok conservation area in Mbirikani					
43. Market the Community Bandas in OlgululuiOlorarashi group ranch					
44. Prepare radio and TV programmes on Amboseli					
45. Prepare newspaper articles on Amboseli					
46. Update the KWS Amboseli web page by including current content					
47. Map key tourist sites in the AE					
48. Produce a tourist map for the entire ecosystem					
49. Produce a tourist guide book for the entire ecosystem					
49. Hold Amboseli marathon annually	+		+		

1.3: Community programme

Plan activity	Physical impacts			
	Range degradation	Land subdivision	Water resources	Climate change mitigation and adaptation
1. Provide technical and funding support for development of group ranch natural resource management plans	++	++	++	
2. Hold community consultative meetings for purposes of establishing wildlife conservation areas	++	++	++	
3. Solicit for tourism investors to invest in the community wildlife conservation areas	++	++		+
4. Develop traditional grazing system guidelines for each group ranch	++		+	++
5. Sensitize group ranch members on the traditional grazing system	+++	++	++	+
6. Hold land owners consultative meetings	+	+	+	
7. Draw and agree on a constitution for the land owners' association				
8. Register the land owners' association				
9. Reconstitute the fence management committees at Namelok and Kimana				
10. Train fence management committees in fence maintenance				
11. Rehabilitate Namelok and Kimana wildlife fences	+ - -	+ --	+ --	
12. Monitor fence performance				
13. Rehabilitate Ol Tukai fence	+			
14. Organise meetings to reconstitute the CRC				
15. Hold regular CRC meetings				
16. Organise conservation awareness workshops for the	++	++	++	++
17. Maasai Moran Conservation Network	++			
18. Organise meetings to establish a consolation scheme endowment fund	++			
19. Solicit for funds to establish the consolation fund	+	+	+	+
20. Verify wildlife related human and livestock injury or deaths				
21. Train game scouts in verification of wildlife caused predation				
22. Construct a model predator proof boma for each group ranch				
23. Collect all revenues accruing to each group ranch	+	+		216
24. Train group ranch officials in leadership, project management, and basic entrepreneurial skills, to enhance their capacity in business development and	+	+		

financial management.				
25. Recruit community game scouts	+			
26. Train game scouts in basic wildlife conservation and management skills and liaise with the Police to designate the scouts as Kenya Police Reserve	+			
27. Procure two patrol vehicles for ATGSA				
28. Procure communication equipment for ATGSA				
29. Provide all scouts with uniforms				
30. Establish ATGSA owned tourist tented camp	++			
31. Develop terms of reference for the socio-economic study				
32. Solicit for funding to carry out the study				
30. Commission a social scientist to carry out the study				
33. Hold community meetings to establish the cultural museum management committee				
34. Fundraise for the construction of the cultural museum				
35. Construct the cultural museum	+			
36. Collect cultural materials for exhibition at the museum	+	+		
37. Develop management plans for all the cultural sites				
38. Train the museum management committee in business management skills				
39. Develop management plans for all the cultural sites				
40. Develop business plans for cultural sites				
41. Train cultural centre managers in business skills				
42. Procure technical assistance to carry out the study				
43. Develop terms of reference for the bird shooting study				
44. Map critical wildlife migratory routes and dispersal areas	+	+	+	
45. Organise awareness meetings to sensitize land owners on the importance of the migratory routes	+	+	+	+
46. Organise land use zoning meetings	+	+		
47. Supply adequate water to the dry season grazing zones	+++ - -	+	++	+
48. Carry out an assessment of the status of key water Springs	+	+	+	++
49. Construct protected barriers around spring sources	++	+	++	+
50. Restore trees around degraded spring sources	+++	+	++	++
51. Establish experimental pasture improvement plots in each group ranch	++	++	+	+
52. Organise community planning meetings to develop management plans for the water bodies				
53. Organise community meetings to discuss formation of WRUAs for the major water bodies				

54. Carry out livestock vaccination campaigns				
55. Establish a livestock Disease Free Zone (DFZ)	+-			
56. Re-establish gazetted livestock holding grounds in Loitokitok district and improve support infrastructure in the livestock markets	+ -			
57. Develop livestock marketing guidelines to prevent exploitation of pastoralists by middlemen				
58. Establish a local livestock marketing association				
59. Create linkages with local and international livestock markets				
60. Construct slaughter houses in the Amboseli ecosystem				
61. Develop conservation education materials focusing on AE resources				
62. Create awareness among the public on the importance of the AE through the mass media, Internet, and organizing and participating in conservation awareness events				

Plan activity	Biological impacts				
	Protection of wildlife corridors	Protection of threatened species	Protection of springs and wetlands	Sustenance and expansion of conservancies	Ecosystem connectivity
1. Provide technical and funding support for development of group ranch natural resource management plans	+++	++	++	+++	++
2. Hold community consultative meetings for purposes of establishing wildlife conservation areas	+++	+++	+	+++	++
3. Solicit for tourism investors to invest in the community wildlife conservation areas	+++	+++	++	+++	++
4. Develop traditional grazing system guidelines for each group ranch	+++	+	+++	+++	+++
5. Sensitize group ranch members on the traditional grazing system	+++	+++	+++	+++	+++
6. Hold land owners consultative meetings	+			+	
7. Draw and agree on a constitution for the land owners' association	+			+	
8. Register the land owners' association					
9. Reconstitute the fence management committees at Namelok and Kimana	++	++	++	+	
10. Train fence management committees in fence maintenance	+	++	++	++	+
11. Rehabilitate Namelok and Kimana wildlife fences	++ --	+ --	++ --	++	
12. Monitor fence performance					

13. Rehabilitate OI Tukai fence		++	++		
14. Organise meetings to reconstitute the CRC	+				
15. Hold regular CRC meetings	++			++	
16. Organise conservation awareness workshops for the	++	++	++	++	++
17. Maasai Moran Conservation Network	+	+++		++	+
18. Organise meetings to establish a consolation scheme endowment fund	++	+		++	++
19. Solicit for funds to establish the consolation fund	++	+		++	
20. Verify wildlife related human and livestock injury or deaths	+	+		+	
21. Train game scouts in verification of wildlife caused predation	+	+		++	
22. Construct a model predator proof boma for each group ranch	+	++		++	++
23. Collect all revenues accruing to each group ranch	++	+	+	++	++
24. Train group ranch officials in leadership, project management, and basic entrepreneurial skills, to enhance their capacity in business development and financial management.	+	++	++		
25. Recruit community game scouts	++	++	++	+++	
26. Train game scouts in basic wildlife conservation and management skills and liaise with the Police to designate the scouts as Kenya Police Reserve	+++	+++	++	+++	
27. Procure two patrol vehicles for ATGSA	++	+	++	++	
28. Procure communication equipment for ATGSA	++	++		++	
29. Provide all scouts with uniforms	+	+		+	
30. Establish ATGSA owned tourist tented camp	++	++	++	+++	++
31. Develop terms of reference for the socio-economic study				+	+
32. Solicit for funding to carry out the study				+	+
30. Commission a social scientist to carry out the study				+	+
33. Hold community meetings to establish the cultural museum management committee	+		+	++	+
34. Fundraise for the construction of the cultural museum	+		+	++	+
35. Construct the cultural museum	+	+	+	++	+
36. Collect cultural materials for exhibition at the museum				++	+
37. Develop management plans for all the cultural sites	++		+	++	
38. Train the museum management committee in business management			+	++	

skills					
39. Develop management plans for all the cultural sites	+		+	++	+
40. Develop business plans for cultural sites			+	++	
41. Train cultural centre managers in business skills		+	+	++	
42. Procure technical assistance to carry out the study		+	+	+	
43. Develop terms of reference for the bird shooting study		++	+	+	+
44. Map critical wildlife migratory routes and dispersal areas	+++	++	++	+++	+++
45. Organise awareness meetings to sensitize land owners on the importance of the migratory routes	+++	+++	++	+++	+++
46. Organise land use zoning meetings	+++	+++	+++	+++	+
47. Supply adequate water to the dry season grazing zones	+ -	+ - -	+++	+++	+++
48. Carry out an assessment of the status of key water Springs	+	+	+++	+	
49. Construct protected barriers around spring sources	+	+	+++	++	+
50. Restore trees around degraded spring sources	+	+++	+++	+++	+++
51. Establish experimental pasture improvement plots in each group ranch				++	+
52. Organise community planning meetings to develop management plans for the water bodies	+	+	++	+	++
53. Organise community meetings to discuss formation of WRUAs for the major water bodies			+++	++	+
54. Carry out livestock vaccination campaigns					
55. Establish a livestock Disease Free Zone (DFZ)					
56. Re-establish gazetted livestock holding grounds in Loitokitok district and improve support infrastructure in the livestock markets					
57. Develop livestock marketing guidelines to prevent exploitation of pastoralists by middlemen					
58. Establish a local livestock marketing association					
59. Create linkages with local and international livestock markets					
60. Construct slaughter houses in the Amboseli ecosystem					

61. Develop conservation education materials focusing on AE resources					
62. Create awareness among the public on the importance of the AE through the mass media, Internet, and organizing and participating in conservation awareness events					

Plan activity	Social Impacts			
	Sustainable alternative livelihoods	Poverty reduction	Conflict alleviation	Sedentary settlements
1. Provide technical and funding support for development of group ranch natural resource management plans	+		+	
2. Hold community consultative meetings for purposes of establishing wildlife conservation areas	+		+	+
3. Solicit for tourism investors to invest in the community wildlife conservation areas	+++	+	+	
4. Develop traditional grazing system guidelines for each group ranch			++	
5. Sensitize group ranch members on the traditional grazing system		++	++	
6. Hold land owners consultative meetings			++	
7. Draw and agree on a constitution for the land owners' association			++	
8. Register the land owners' association			+	
9. Reconstitute the fence management committees at Namelok and Kimana			++	+
10. Train fence management committees in fence maintenance			+	+
11. Rehabilitate Namelok and Kimana wildlife fences		+	++	+
12. Monitor fence performance		+	++	
13. Rehabilitate OI Tukai fence		+	++	
14. Organise meetings to reconstitute the CRC			+	
15. Hold regular CRC meetings				
16. Organise conservation awareness workshops for the			+	
17. Maasai Moran Conservation Network		+	++	
18. Organise meetings to establish a consolation scheme endowment fund		+	++	
19. Solicit for funds to establish the consolation fund		+	++	
20. Verify wildlife related human and livestock injury or deaths			++	
21. Train game scouts in verification of wildlife caused predation			++	
22. Construct a model predator proof boma for each group ranch		+	++	+
23. Collect all revenues accruing to each group ranch		++	+	
24. Train group ranch officials in leadership, project management, and basic entrepreneurial skills, to enhance their capacity in business development and financial				

management.				
25. Recruit community game scouts			+++	
26. Train game scouts in basic wildlife conservation and management skills and liaise with the Police to designate the scouts as Kenya Police Reserve			+++	
27. Procure two patrol vehicles for ATGSA			++	
28. Procure communication equipment for ATGSA			++	
29. Provide all scouts with uniforms			+	
30. Establish ATGSA owned tourist tented camp	++	+		
31. Develop terms of reference for the socio-economic study				
32. Solicit for funding to carry out the study				
30. Commission a social scientist to carry out the study				
33. Hold community meetings to establish the cultural museum management committee			+	
34. Fundraise for the construction of the cultural museum	+	+		
35. Construct the cultural museum	++	+		
36. Collect cultural materials for exhibition at the museum	++	+		
37. Develop management plans for all the cultural sites			+	
38. Train the museum management committee in business management skills				
39. Develop management plans for all the cultural sites			+	
40. Develop business plans for cultural sites			+	
41. Train cultural centre managers in business skills				
42. Procure technical assistance to carry out the study				
43. Develop terms of reference for the bird shooting study				
44. Map critical wildlife migratory routes and dispersal areas			+	
45. Organise awareness meetings to sensitize land owners on the importance of the migratory routes	+			
46. Organise land use zoning meetings			++	++
47. Supply adequate water to the dry season grazing zones		++		
48. Carry out an assessment of the status of key water Springs				+++
49. Construct protected barriers around spring sources			+	
50. Restore trees around degraded spring sources	+			++
51. Establish experimental pasture improvement plots in each group ranch		+		+++
52. Organise community planning meetings to develop management plans for the water bodies			+	++
53. Organise community meetings to discuss formation of WRUAs for the major water bodies			++	+
54. Carry out livestock vaccination campaigns	+	+		
55. Establish a livestock Disease Free Zone(DFZ)	+	+		
56. Re-establish gazetted livestock holding grounds in Loitokitok district and improve support infrastructure in the livestock	+	+		

markets				
57.Develop livestock marketing guidelines to prevent exploitation of pastoralists by middlemen				
58 Establish a local livestock marketing association		++		
59. Create linkages with local and international livestock markets				
60.Construct slaughter houses in the Amboseli ecosystem	++ --	++ --		
61.Develop conservation education materials focusing on AE resources				
62.Create awareness among the public on the importance of the AE through the mass media, Internet, and organizing and participating in conservation awareness events				

Plan activity	Economic impacts		
	Equitable ecosystem benefit sharing	Boosting county economy	Boosting Vision 2030
1. Provide technical and funding support for development of group ranch natural resource management plans	+		
2. Hold community consultative meetings for purposes of establishing wildlife conservation areas	++	+	+
3. Solicit for tourism investors to invest in the community wildlife conservation areas		+++	
4. Develop traditional grazing system guidelines for each group ranch		+	
5. Sensitize group ranch members on the traditional grazing system	+		
6. Hold land owners consultative meetings	++		
7. Draw and agree on a constitution for the land owners' association			
8. Register the land owners' association			
9. Reconstitute the fence management committees at Namelok and Kimana			
10. Train fence management committees in fence maintenance			
11. Rehabilitate Namelok and Kimana wildlife fences			
12. Monitor fence performance			
13. Rehabilitate OI Tukai fence			
14. Organise meetings to reconstitute the CRC			
15. Hold regular CRC meetings			
16. Organise conservation awareness workshops for the			
17. Maasai Moran Conservation Network			
18. Organise meetings to establish a consolation scheme endowment fund	+		
19. Solicit for funds to establish the consolation fund	+		
20. Verify wildlife related human and livestock injury or deaths		+	
21. Train game scouts in verification of wildlife caused predation		+	
22. Construct a model predator proof boma for each group ranch		+	

23. Collect all revenues accruing to each group ranch	+		
24. Train group ranch officials in leadership, project management, and basic entrepreneurial skills, to enhance their capacity in business development and financial management.			+
25. Recruit community game scouts			
26. Train game scouts in basic wildlife conservation and management skills and liaise with the Police to designate the scouts as Kenya Police Reserve			
27. Procure two patrol vehicles for ATGSA			
28. Procure communication equipment for ATGSA			
29. Provide all scouts with uniforms			
30. Establish ATGSA owned tourist tented camp		+	+
31. Develop terms of reference for the socio-economic study			
32. Solicit for funding to carry out the study			
30. Commission a social scientist to carry out the study			
33. Hold community meetings to establish the cultural museum management committee		+	
34. Fundraise for the construction of the cultural museum		+	
35. Construct the cultural museum		++	
36. Collect cultural materials for exhibition at the museum		+	
37. Develop management plans for all the cultural sites			+
38. Train the museum management committee in business management skills			
39. Develop management plans for all the cultural sites			
40. Develop business plans for cultural sites			+
41. Train cultural centre managers in business skills			
42. Procure technical assistance to carry out the study			
43. Develop terms of reference for the bird shooting study			
44. Map critical wildlife migratory routes and dispersal areas			
45. Organise awareness meetings to sensitize land owners on the importance of the migratory routes			+
46. Organise land use zoning meetings			+
47. Supply adequate water to the dry season grazing zones			
48. Carry out an assessment of the status of key water Springs			
49. Construct protected barriers around spring sources			
50. Restore trees around degraded spring sources			
51. Establish experimental pasture improvement plots in each group ranch			
52. Organise community planning meetings to develop management plans for the water bodies			+
53. Organise community meetings to discuss formation of WRUAs for the major water bodies			
54. Carry out livestock vaccination campaigns		+	
55. Establish a livestock Disease Free Zone (DFZ)		+	
56. Re-establish gazetted livestock holding grounds in Loitokitok district and improve			

support infrastructure in the livestock markets			
57.Develop livestock marketing guidelines to prevent exploitation of pastoralists by middlemen			
58 Establish a local livestock marketing association			
59. Create linkages with local and international livestock markets			
60.Construct slaughter houses in the Amboseli ecosystem			
61.Develop conservation education materials focusing on AE resources			
62.Create awareness among the public on the importance of the AE through the mass media, Internet, and organizing and participating in conservation awareness events			

Plan activity	Institutional and trans-boundary impacts, international implications and public interest				
	Regional cohesion and partnerships	Implementation of MEAs	Public interests	Institutional responsibility and capacity	Integration of all development sectors
1. Provide technical and funding support for development of group ranch natural resource management plans			++		++
2. Hold community consultative meetings for purposes of establishing wildlife conservation areas				+++	
3. Solicit for tourism investors to invest in the community wildlife conservation areas					
4. Develop traditional grazing system guidelines for each group ranch			++		
5. Sensitize group ranch members on the traditional grazing system			++		
6. Hold land owners consultative meetings			++		
7. Draw and agree on a constitution for the land owners' association				++	
8. Register the land owners' association				++	
9. Reconstitute the fence management committees at Namelok and Kimana			+		
10. Train fence management committees in fence maintenance				+	
11. Rehabilitate Namelok and Kimana wildlife fences					
12. Monitor fence performance			+		
13. Rehabilitate OI Tukai fence			+		
14. Organise meetings to reconstitute the CRC			+		
15. Hold regular CRC meetings	+			+	
16. Organise conservation awareness workshops for the	+		+		
17. Maasai Moran Conservation Network			+		
18. Organise meetings to establish a consolation scheme endowment fund			++		
19. Solicit for funds to establish the consolation fund			+++		
20. Verify wildlife related human and livestock injury or deaths			+		
21. Train game scouts in verification of wildlife caused predation					
22. Construct a model predator proof boma for each group ranch					
23. Collect all revenues accruing to each group ranch					
24. Train group ranch officials in leadership, project management, and basic entrepreneurial skills, to enhance their capacity in business development and			+		

financial management.					
25. Recruit community game scouts					
26. Train game scouts in basic wildlife conservation and management skills and liaise with the Police to designate the scouts as Kenya Police Reserve			++	+	
27. Procure two patrol vehicles for ATGSA				+	
28. Procure communication equipment for ATGSA				+	
29. Provide all scouts with uniforms				+	
30. Establish ATGSA owned tourist tented camp				++	
31. Develop terms of reference for the socio-economic study					+
32. Solicit for funding to carry out the study					+
30. Commission a social scientist to carry out the study					++
33. Hold community meetings to establish the cultural museum management committee			+		
34. Fundraise for the construction of the cultural museum					+
35. Construct the cultural museum					+
36. Collect cultural materials for exhibition at the museum					+
37. Develop management plans for all the cultural sites					
38. Train the museum management committee in business management skills					
39. Develop management plans for all the cultural sites			+		
40. Develop business plans for cultural sites					+
41. Train cultural centre managers in business skills					
42. Procure technical assistance to carry out the study					+
43. Develop terms of reference for the bird shooting study					+
44. Map critical wildlife migratory routes and dispersal areas		+			
45. Organise awareness meetings to sensitize land owners on the importance of the migratory routes					+
46. Organise land use zoning meetings	++				
47. Supply adequate water to the dry season grazing zones			+++ --		
48. Carry out an assessment of the status of key water Springs		+++			
49. Construct protected barriers around spring sources			++		
50. Restore trees around degraded spring sources			++		

51. Establish experimental pasture improvement plots in each group ranch	+				
52. Organise community planning meetings to develop management plans for the water bodies		+			++
53. Organise community meetings to discuss formation of WRUAs for the major water bodies			+++		
54. Carry out livestock vaccination campaigns			+		
55. Establish a livestock Disease Free Zone(DFZ)			+		
56. Re-establish gazetted livestock holding grounds in Loitokitok district and improve support infrastructure in the livestock markets					+
57. Develop livestock marketing guidelines to prevent exploitation of pastoralists by middlemen					
58. Establish a local livestock marketing association				++	
59. Create linkages with local and international livestock markets				++	
60. Construct slaughter houses in the Amboseli ecosystem					
61. Develop conservation education materials focusing on AE resources			++		
62. Create awareness among the public on the importance of the AE through the mass media, Internet, and organizing and participating in conservation awareness events			++		

1.4: Security programme

Plan activity	Physical impacts			
	Range degradation	Land subdivision	Water resources	Climate change mitigation and adaptation
1. Train security staff in arrest and prosecution process	0	0	+	+
2. Carry out aerial patrols	0	0	+	+
3. Carry out ground patrols	+	0	+	+
4. Carry out de-snaring operations	0	0	0	-
5. Hold cross border wildlife security meetings	+	+	+	+
6. Share intelligence information on wildlife security	++	+	+	++
7. Procure computers and accessories	0	0	0	0
8. Procure a GIS based security database system	++	++	++	++
9. Train security officers in database management	++	++	++	++
10. Deploy adequate intelligence staff to the AE	+	+	+	+
11. Deploy adequate security to all KWS facilities	-	-	+	+
12. Organise sensitization study tours for the local police and judiciary	+	+	+	+
13. Develop a programme of work for the game scouts	++	++	++	++
14. Organise regular game scout patrols	+++	+	+++	++
15. Organise wildlife security seminars for local leaders	+++	+++	+++	+++
16. Organise security public meetings	+++	+++	+++	+++
17. Provide ranger escort to KWS researchers	++	++	++	++
18. Provide ranger escort to filming parties	+	+	+	+
19. Coordinate the establishment of manned barriers at all tourist facilities	0	0	0	0
20. Procure security equipment for the Amboseli WPU	+	+	+	+
21. Train the WPU in use of the security equipment	+	+	+	+

Plan activity	Biological impacts					
	Protection of wildlife corridors	Protection of threatened species	Protection of springs and wetlands	Sustenance and expansion of conservancies	Ecosystem connectivity	Environmental rehabilitation
1. Train security staff in arrest and prosecution process	+	+++	+	++	++	+
2. Carry out aerial patrols	++	+++	+	++	+++	+
3. Carry out ground patrols	++	+++	+	++	++	+
4. Carry out de-snaring operations	++	+++	0	++	+	+
5. Hold cross border wildlife security meetings	++	+++	+	++	++	++
6. Share intelligence information on wildlife security	+++	+++	++	++	++	+
7. Procure computers and accessories	+	+	+	+	+	+
8. Procure a GIS based security database system	++	+++	++	++	++	++
9. Train security officers in database management	++	++	++	++	++	++
10. Deploy adequate intelligence staff to the AE	+	+	+	+	+	+
11. Deploy adequate security to all KWS facilities						
12. Organise sensitization study tours for the local police and judiciary	+	+	+	+	+	+
13. Develop a programme of work for the game scouts	++	+++	++	+++	++	+
14. Organise regular game scout patrols	+++	+++	+++	+++	+++	++
15. Procure a GIS based security database system	++	+++	++	++	++	++
16. Train security officers in database management	++	++	++	++	++	++
17. Deploy adequate intelligence staff to the AE	+	+	+	+	+	+
18. Deploy adequate security to all KWS facilities						
19. Organize sensitization study tours for the local police and judiciary	+	+	+	+	+	+
20. Develop a programme of work for the game scouts	++	+++	++	+++	++	+
21. Organize regular game scout patrols	+++	+++	+++	+++	+++	++
22. Organize wildlife security seminars for local leaders	+++	++	+++	+++	++	+++
23. Organize security public meetings	+++	++	+++	+++	++	+

24. Provide ranger escort to KWS researchers	++	++	++	++	++	+
25. Provide ranger escort to filming parties	+	+	+	+	+	++
26. Coordinate the establishment of manned barriers at all tourist facilities	0	0	0	0	+	0
27. Procure security equipment for the Amboseli WPU	+	+	+	+	+	+
28. Train the WPU in use of the security equipment	++	++	++	++	+	++

Plan activity	Economic impacts
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Plan activity	Social impacts			
	Range degradation	Land subdivision	Climate change mitigation and adaptation	Breakdown of traditional grazing systems
1. Train security staff in arrest and prosecution process	+	+	+	+
2. Carry out aerial patrols	+	0	+	+
3. Carry out ground patrols	+	0	0	++
4. Carry out de-snaring operations	0	0	0	0
5. Hold cross border wildlife security meetings	+	0	+	+++
6. Share intelligence information on wildlife security	+	+	+	++
7. Procure computers and accessories	+	0	+	+
8. Procure a GIS based security database system	+	+	+	++
9. Train security officers in database management	++	++	++	++
10. Deploy adequate intelligence staff to the AE	+	+	+	+
11. Deploy adequate security to all KWS facilities	+	+	+	+
12. Organise sensitization study tours for the local police and judiciary	+	+	+	+
13. Develop a programme of work for the game scouts	++	+	++	+++
14. Organise regular game scout patrols	++	+	++	++
15. Organise wildlife security seminars for local leaders	++	++	+	++
16. Organise security public meetings	++	++	++	++
17. Provide ranger escort to KWS researchers	++	+	++	++
18. Provide ranger escort to filming parties	+	+	+	+
19. Coordinate the establishment of manned barriers at all tourist facilities	+	0	+	+
20. Procure security equipment for the Amboseli WPU	+	0	+	+
21. Train the WPU in use of the security equipment	+	0	+	+

	Equitable ecosystem benefit sharing	Boosting county economy	Boosting Vision 2030
1. Train security staff in arrest and prosecution process	+	0	+
2. Carry out aerial patrols	+	+	+
3. Carry out ground patrols	+	++	+
4. Carry out de-snaring operations	+	0	+
5. Hold cross border wildlife security meetings	++	++	+
6. Share intelligence information on wildlife security	++	++	+
7. Procure computers and accessories	+	+	+
8. Procure a GIS based security database system	++	++	+++
9. Train security officers in database management	++	++	++
10. Deploy adequate intelligence staff to the AE	++	++	++
11. Deploy adequate security to all KWS facilities	++	++	++
12. Organise sensitization study tours for the local police and judiciary	++	++	++
13. Develop a programme of work for the game scouts	+	++	++
14. Organise regular game scout patrols	++	++	+
15. Organise wildlife security seminars for local leaders	++	++	++
16. Organise security public meetings	++	++	++
17. Provide ranger escort to KWS researchers	++	+	++
18. Provide ranger escort to filming parties	++	++	++
19. Coordinate the establishment of manned barriers at all tourist facilities	0	0	0
20. Procure security equipment for the Amboseli WPU	+	+	+
21. Train the WPU in use of the security equipment	++	++	+

Plan activity	Institutional and transboundary impacts, international implications and public interest				
	Regional cohesion and partnerships	Implementation of MEAs	Public interests	Institutional responsibility and capacity	Integration of all development sectors
1. Train security staff in arrest and prosecution process	+	+	-	+	+-
2. Carry out aerial patrols	+	+	-+	+	+
3. Carry out ground patrols	+-	++	-+-	++	++
4. Carry out de-snaring operations	+	+	- +	0	0
5. Hold cross border wildlife security meetings	+++	+++	--+	++	++
6. Share intelligence information on wildlife security	+++	+++	-+-	++	++
7. Procure computers and accessories	+	+	++	++	+++
8. Procure a GIS based security database system	++	++	++	++	++
9. Train security officers in database management	++	++	++	++	++
10. Deploy adequate intelligence staff to the AE	++	++	--+	+	++
11. Deploy adequate security to all KWS facilities	+	+	+	+	+
12. Organize sensitization study tours for the local police and judiciary	++	++	-+	++	+++
13. Develop a programme of work for the game scouts	++	++	++	++	++
14. Organize regular game scout patrols	++	++	++	++	++
15. Organize wildlife security seminars for local leaders	++	++	++	++	++
16. Organize security public meetings	++	++	++	++	++
17. Provide ranger escort to KWS researchers	+	++	+	++	+
18. Provide ranger escort to filming parties	+	+	+	+	+
19. Coordinate the establishment of manned barriers at all tourist facilities	0	0	++	+++	++
20. Procure security equipment for the Amboseli WPU	+	++	+	+++	+
21. Train the WPU in use of the security equipment	+	+	-+	++	+

1.5: Ecosystem operations programme

Plan activity	Physical impacts			
	Range degradation	Land fragmentation	Water resources	Climate change mitigation and adaptation
1. Organize stakeholder meetings to discuss the draft trust deed	+++	+++	+++	++
2. Launch the Amboseli Ecosystem Trust	+++	+++	+++	++
3. Establish the Trust administrative structures	++	++	++	+
4. Hold regular Park management committee meetings	+++	+++	+++	+++
5. Sign collaborative research agreements with the major Conservation NGOs in the AE	+++	+++	+++	++
6. Organize community meetings to discuss conditions for livestock incursion in the Park	+++	+++	+++	++
7. Draw a formal agreement regarding provision of water to the Park-adjacent community	+ -	++	+++	+++
8. Attend all District level meetings	++	+ -	++	++
9. Define the tasks and responsibilities of honorary wardens and assign them tasks	+++	++	++	++
10. Monitor the performance of honorary wardens	++	++	+++	++
11. Survey all KWS plots in the AE	+	+ -	+	+
12. Liaise with the Ministry of Lands for issuance of Title deeds for the KWS plots	+	+ -	+	+
13. Assess staff needs and deploy adequate staff to the AE	++	+	+	++
14. Liaise with the Ministry of Medical Services to establish a small medical laboratory at the Amboseli Health Clinic	+	+	-	+
15. Organize AIDS awareness meetings for KWS staff and the community	+	+	+	+
16. Rehabilitate the former staff canteen and convert it into a boarding facility for children from Amboseli Primary School'	-	-	-	-
17. Fence the school compound to keep out elephants	0	0	0	0
18. Deploy additional teachers to Amboseli Primary School	0	0	0	0
19. Procure classroom furniture	0	0	0	0
20. Hold staff meetings to review the rules and regulations of the staff welfare association	0	0	0	0
21. Open bank account to support the operations of the staff welfare association	0	0	0	0
22. Paint the staff canteen	0	0	0	0
23. Procure quality furniture for the canteen				
24. Carry out an overhaul of the Amboseli water supply pipeline	++	++	++	+++
25. Procure generators for pumping water from boreholes	+ -	+ -	++	+++

26. Desilt dams	++	++	++	+++
27. Carry out a community water requirement assessment study	++	++	++	+++
28. Construct staff houses	+ -	- +	- +	-
29. Construct additional offices to house research and procurement sections	- -	- -	- -	-
30. Rehabilitate buildings at Loitokitok station	+	+	+	+
31. Carry out routine road maintenance	+ -	+ -		
32. Develop tourist road development plans for areas outside the Park	++ -	- - +	+ -	- -
33. Provide adequate water at the gates	+	+	+	+
34. Construct visitor toilets at Ol Kelunyiet gate	+		+	
35. Construct a gate at Kitirua entry point	0	0	0	0
36. Carry out routine maintenance of sign posts	0	0	0	0
37. Install directional and information sign posts at the main junctions to the Park	0	0	0	0
38. Redesign the mechanical workshop	0	0	0	0
39. Provide the AE with a mobile workshop	0	0	0	0
40. Construct a new environmentally friendly fuel storage tank			++	+
41. Hold stakeholder meetings to discuss the electricity supply project	- -	- -	+ -	+
42. Solicit for funds to implement the electricity supply project	- -	- -	- -	-
43. Carry out routine maintenance of the airstrips	+++	+	+	
44. Include key stakeholders in the radio communication network	+++	+++	+++	++
45. Procure and install firefighting appliances as per the assessment carried out above	++	+	+	++
46. Procure radio communication sets	+	+	+	+
47. Carry out an assessment of the required fire fighting appliances	+	+	+	+

Plan activity	Biological impacts				
	Protection of wildlife corridors	Protection of threatened species	Protection of springs and wetlands	Sustenance and expansion of conservancies	Ecosystem connectivity
1. Organize stakeholder meetings to discuss the draft trust deed	+++	+	+++	++	++
2. Launch the Amboseli Ecosystem Trust	+++	+	+++	+++	++
3. Establish the Trust administrative structures	+	+	+	++	++
4. Hold regular Park management committee meetings	++	+++	+++	++	+++
5. Sign collaborative research agreements with the major Conservation NGOs in the AE	++	+++	++	+++	+++
6. Organize community meetings to	++	+ -	+ -	++	++

discuss conditions for livestock incursion in the Park					
7. Draw a formal agreement regarding provision of water to the Park-adjacent community	+++	++	++	+++	++
8. Attend all District level meetings	+ -	+ -	+ -	+ +	++
9. Define the tasks and responsibilities of honorary wardens and assign them tasks	+++	+++	+++	+++	+++
10. Monitor the performance of honorary wardens	+	+	+	+	+
11. Survey all KWS plots in the AE	+	++	+	++	+++
12. Liaise with the Ministry of Lands for issuance of Title deeds for the KWS plots	+	+	+	+	+
13. Assess staff needs and deploy adequate staff to the AE	+++	+++	+++	+++	+++
14. Liaise with the Ministry of Medical Services to establish a small medical laboratory at the Amboseli Health Clinic	+	+	+	+	+
15. Organize AIDS awareness meetings for KWS staff and the community	++	++	++	++	++
16. Rehabilitate the former staff canteen and convert it into a boarding facility for children from Amboseli Primary School'	--	-	--	+ -	--
17. Fence the school compound to keep out elephants	0	0	0	0	0
18. Deploy additional teachers to Amboseli Primary School	+ -	--	-	-	- +
19. Procure classroom furniture	0	0	0	0	0
20. Hold staff meetings to review the rules and regulations of the staff welfare association	0	0	0	0	0
21. Open bank account to support the operations of the staff welfare association	0	0	0	0	0
22. Paint the staff canteen	0	0	0	0	0
23. Procure quality furniture for the canteen	0	0	0	0	0
24. Carry out an overhaul of the Amboseli water supply pipeline	+++	+++	+++	+++	+++
25. Procure generators for pumping water from boreholes	-- +	--	+++	++	++
26. Desilt dams	++	++	++	++	+++
27. Carry out a community water requirement assessment study	++	++	-- +	-- +	++
28. Construct staff houses	++	+	- +	- +	++
29. Construct additional offices to house research and procurement sections	+	+	- +	- +	+
30. Rehabilitate buildings at Loitokitok station	++	++	++	++	+++
31. Carry out routine road maintenance	+	+	+	+	+
32. Develop tourist road development	++	++	--	++	+++

plans for areas outside the Park					
33. Provide adequate water at the gates	+_	--	--	+	++
34. Construct visitor toilets at Ol Kelunyiet gate	+	+	+	+	+
35. Construct a gate at Kitirua entry point	--	--	--	++	++
36. Carry out routine maintenance of sign posts	+	+	+	+	+++
37. Install directional and information sign posts at the main junctions to the Park	+	+	+	+++	+++
38. Redesign the mechanical workshop	+	+	+	+	+
39. Provide the AE with a mobile workshop	+	++	+	++	++
40. Construct a new environmentally friendly fuel storage tank	+	++	--	+	++
41. Hold stakeholder meetings to discuss the electricity supply project	_ +	--	--	++	+++
42. Solicit for funds to implement the electricity supply project	+	-	-	+	+
43. Carry out routine maintenance of the airstrips	+	++		++	+++
44. Include key stakeholders in the radio communication network	++	++	++	+++	+++
45. Procure and install fire fighting appliances as per the assessment carried out below	+	+	+	+	+
46. Procure radio communication sets	++	++	++	++	+++
47. Carry out an assessment of the required fire fighting appliances	+	+	+	+	+

Plan activity	Social Impacts		
	Sustainable alternative livelihoods	Poverty reduction	Conflict alleviation
1. Organize stakeholder meetings to discuss the draft trust deed	+++	+++	+++
2. Launch the Amboseli Ecosystem Trust	++	++	++
3. Establish the Trust administrative structures	++	++	+_
4. Hold regular Park management committee meetings	++	++	++
5. Sign collaborative research agreements with the major Conservation NGOs in the AE	++	+	+_
6. Organize community meetings to discuss conditions for livestock incursion in the Park	++	++	-- +
7. Draw a formal agreement regarding provision of water to the Park-adjacent community	++	++	-- +
8. Attend all District level meetings	+	++	++_
9. Define the tasks and responsibilities of honorary wardens and assign them tasks	+++	++	+++
10. Monitor the performance of honorary wardens	+	+	+
11. Survey all KWS plots in the AE	+	+	++
12. Liaise with the Ministry of Lands for issuance of Title deeds for the KWS plots	+	+	++
13. Assess staff needs and deploy adequate staff to the AE	++	+	+++

14. Liaise with the Ministry of Medical Services to establish a small medical laboratory at the Amboseli Health Clinic	+	+	+
15. Organize AIDS awareness meetings for KWS staff and the community	++	+	+
16. Rehabilitate the former staff canteen and convert it into a boarding facility for children from Amboseli Primary School'	++	+++	— +
17. Fence the school compound to keep out elephants	++	++	++
18. Deploy additional teachers to Amboseli Primary School	++	++	+
19. Procure classroom furniture	+	+	+
20. Hold staff meetings to review the rules and regulations of the staff welfare association	+	+	+
21. Open bank account to support the operations of the staff welfare association	0	0	0
22. Paint the staff canteen	0	0	0
23. Procure quality furniture for the canteen	0	0	0
24. Carry out an overhaul of the Amboseli water supply pipeline	+++	++	+++
25. Procure generators for pumping water from boreholes	+++	+++	+++
26. Desilt dams	++	++	+++
27. Carry out a community water requirement assessment study	+++	+++	+++
28. Construct staff houses	+	+	++
29. Construct additional offices to house research and procurement sections	+	+	+
30. Rehabilitate buildings at Loitokitok station	+	++	+++
31. Carry out routine road maintenance	++	++	++
32. Develop tourist road development plans for areas outside the Park	+++	+++	+++
33. Provide adequate water at the gates	++	+	— —
34. Construct visitor toilets at Ol Kelunyiet gate	+	+	+
35. Construct a gate at Kitirua entry point	+	+	+
36. Carry out routine maintenance of sign posts	++	+	+
37. Install directional and information sign posts at the main junctions to the Park	+	+	+
38. Redesign the mechanical workshop	+		++
39. Provide the AE with a mobile workshop	+	+	+
40. Construct a new environmentally friendly fuel storage tank	+	+	+
41. Hold stakeholder meetings to discuss the electricity supply project	++	++	+++
42. Solicit for funds to implement the electricity supply project	+	+	+
43. Carry out routine maintenance of the airstrips	++	++	+
44. Include key stakeholders in the radio communication network	+	+	+++
45. Procure and install fire fighting appliances as per the assessment carried out above	+	+	+
46. Procure radio communication sets	+	+	++
47. Carry out an assessment of the required fire fighting appliances			

Plan activity	Economic impacts		
	Equitable ecosystem benefit sharing	Boosting county economy	Boosting Vision 2030
1. Organize stakeholder meetings to discuss the draft trust deed	+++	++	++
2. Launch the Amboseli Ecosystem Trust	+++	++	++
3. Establish the Trust administrative structures	++	+	+
4. Hold regular Park management committee meetings	+++	+++	+++
5. Sign collaborative research agreements with the major Conservation NGOs in the AE	++	++	+
6. Organize community meetings to discuss conditions for livestock incursion in the Park	+++	+++	+++
7. Draw a formal agreement regarding provision of water to the Park-adjacent community	+++	++	+
8. Attend all District level meetings	++	++	+
9. Define the tasks and responsibilities of honorary wardens and assign them tasks	+++	++	++
10. Monitor the performance of honorary wardens	++	+	+
11. Survey all KWS plots in the AE	+	+	
12. Liaise with the Ministry of Lands for issuance of Title deeds for the KWS plots	+	+	+
13. Assess staff needs and deploy adequate staff to the AE	++	+++	++
14. Liaise with the Ministry of Medical Services to establish a small medical laboratory at the Amboseli Health Clinic	++	++	++
15. Organize AIDS awareness meetings for KWS staff and the community	+	+	++
16. Rehabilitate the former staff canteen and convert it into a boarding facility for children from Amboseli Primary School'	+++	++	+++
17. Fence the school compound to keep out elephants	++	+	++
18. Deploy additional teachers to Amboseli Primary School	+	+	+
19. Procure classroom furniture	+	+	+
20. Hold staff meetings to review the rules and regulations of the staff welfare association	+	++	++
21. Open bank account to support the operations of the staff welfare association	+	++	+
22. Paint the staff canteen	0	0	0
23. Procure quality furniture for the canteen	0	0	0
24. Carry out an overhaul of the Amboseli water supply pipeline	+++	+++	++
25. Procure generators for pumping water from boreholes	+++	+++	+++
26. Desilt dams	++	+++	++
27. Carry out a community water requirement assessment study	++	++	++
28. Construct staff houses	+	+	+
29. Construct additional offices to house research and procurement sections	+	+	+
30. Rehabilitate buildings at Loitokitok station	+	+	+
31. Carry out routine road maintenance	++	++	++
32. Develop tourist road development plans for areas outside the Park	+++	+++	+++
33. Provide adequate water at the gates	+	++	+
34. Construct visitor toilets at Ol Kelunyiet gate	+	+	+
35. Construct a gate at Kitirua entry point	++	++	+
36. Carry out routine maintenance of sign posts	++	++	+
37. Install directional and information sign posts at the main	+	+	+

junctions to the Park			
38. Redesign the mechanical workshop	+	+	+
39. Provide the AE with a mobile workshop	+	+	+
40. Construct a new environmentally friendly fuel storage tank	+	++	+
41. Hold stakeholder meetings to discuss the electricity supply project	+++	+++	+++
42. Solicit for funds to implement the electricity supply project	++	++	++
43. Carry out routine maintenance of the airstrips	+	++	++
44. Include key stakeholders in the radio communication network	+	++	+
45. Procure and install fire fighting appliances as per the assessment carried out above	+	+	+
46. Procure radio communication sets	++	++	++
47. Carry out an assessment of the required fire fighting appliances	+	+	+

Plan activity	Institutional and transboundary impacts, international implications and public interest				
	Regional cohesion and partnerships	Implementation of MEAs	Public interests	Institutional responsibility and capacity	Integration of all development sectors
1. Organize stakeholder meetings to discuss the draft trust deed	+++	+++	+++	++	+++
2. Launch the Amboseli Ecosystem Trust	+++	+++	+++	++	+++
3. Establish the Trust administrative structures	++	++	++	++	++
4. Hold regular Park management committee meetings	+++	+++	+++	+++	+++
5. Sign collaborative research agreements with the major Conservation NGOs in the AE	++	+++	++	+++	++
6. Organize community meetings to discuss conditions for livestock incursion in the Park	++	++	++	+++	+++
7. Draw a formal agreement regarding provision of water to the Park-adjacent community	++	+	+++	+++	++
8. Attend all District level meetings	++	++	++	+++	+++
9. Define the tasks and responsibilities of honorary wardens and assign them tasks	++	++	++	++	++
10. Monitor the performance of honorary wardens	+	+	+	+	+
11. Survey all KWS plots in the AE	+	+	+	+	+
12. Liaise with the Ministry of Lands for issuance of Title deeds for the KWS plots	+	+	+	+	+
13. Assess staff needs and deploy adequate staff to the AE	+	++	++	+++	+++
14. Liaise with the Ministry of Medical Services to establish a small medical laboratory at the Amboseli Health Clinic	0	0	+++	++	++
15. Organize AIDS awareness meetings for KWS staff and the community	0	0	++	++	+
16. Rehabilitate the former staff canteen and convert it into a boarding facility for children from Amboseli Primary School'	0	0	+++	++	+++
17. Fence the school compound to keep out elephants	0	0	++	+++	++
18. Deploy additional teachers to Amboseli Primary School	0	0	++	++	++
19. Procure classroom furniture	0	0	0	0	0
20. Hold staff meetings to review the rules and regulations of the staff welfare association	0	0	0	0	0
21. Open bank account to support the operations of the staff welfare association	0	0	0	0	0
22. Paint the staff canteen	0	0	0	0	0
23. Procure quality furniture for the canteen	0	0	0	0	0
24. Carry out an overhaul of the Amboseli water supply pipeline	+	+	+++	++	+++
25. Procure generators for pumping water from boreholes	+	+	+++	++	+++

26. Desilt dams	+	+	+++	++	+++
27. Carry out a community water requirement assessment study	+	++	++	++	+++
28. Construct staff houses		+	+	+++	++
29. Construct additional offices to house research and procurement sections	+	++	++	+++	+
30. Rehabilitate buildings at Loitokitok station	+	+	+++	+++	+
31. Carry out routine road maintenance			+	++	
32. Develop tourist road development plans for areas outside the Park	++	+++	+++	+++	+++
33. Provide adequate water at the gates	0	0	++	++	0
34. Construct visitor toilets at Ol Kelunyiet gate	0	0	++	++	0
35. Construct a gate at Kitirua entry point	0	0	++	++	0
36. Carry out routine maintenance of sign posts	0	0	++	++	++
37. Install directional and information sign posts at the main junctions to the Park	+	+	+	+	+
38. Redesign the mechanical workshop	0	0	0	0	0
39. Provide the AE with a mobile workshop	0	0	+	+++	0
40. Construct a new environmentally friendly fuel storage tank	0	0		++	0
41. Hold stakeholder meetings to discuss the electricity supply project	0	-- +	+++	+++	+++
42. Solicit for funds to implement the electricity supply project	0		++	++	++
43. Carry out routine maintenance of the airstrips	++	++	+	+++	++
44. Include key stakeholders in the radio communication network	+++		++	+++	+++
45. Procure and install fire fighting appliances as per the assessment carried out above	0	0	+++	+++	+++
46. Procure radio communication sets	+	+	+	+	+
47. Carry out an assessment of the required fire fighting appliances	+	+	+	+	+

Appendix 4 - List of stakeholders consulted in the SEA process

Name of stakeholder	Organization	Official position	Date consulted	Contacts
1. Lesale Odupoi	KWS	Research scientist (EIA) Southern Conservation Area	10 th Sep 2013	0722472353, jlesale@kws.go.ke
2. Julius Chpetei	KWS	Senior Warden	23 rd Sep 2013	0722733165; Cheptei@kws.go.ke
3. Paul Nguru	NEMA	Senior Officer, Research & Planning	23 rd Sep 2013	0720749489 muirunguru@yahoo.com
4. Jeanne Altmann	Amboseli Baboon Research Project	Project Director	23 rd Sep 2013	jini@princeton.edu
5. Wilfred Ngonze	Elerai Conservancy	Senior Warden	25 th Sep 2013	0720221449
6. Julius Onuko	Satao Elerai Camp	Assistant Manager	25 th Sep 2013	0729403566 cAEMP@sataoelerai.co.ke
7. Herman Kimani	Amboseli Serena Lodge	Manager	25 th Sep 2013	-
8. Daniel Leturesh	AET & Olgulului Group Ranch	Chairman	26 th Sep 2013	-
9. Emmanuel Kanai	ATGRCA & Kuku B. Group Ranch	Chairman	26 th Sep 2013	-
10. David Salaash	Eselenkei Group Ranch & AET	Treasurer/Vice-Chair (AET)	26 th Sep 2013	-
11. Koikai Oloiptip	AET & ATGRCA	Coordinator	26 th Sep 2013	0700727499; koikaioloiptip@gmail.com
12. Susan Wambui	AET	Accountant/Admin Assistant	26 th Sep 2013	-
13. William Kina	Rombo Group Ranch	Member	26 th Sep 2013	-
14. Kimeu Musau	WRMA	Sub-Region Manager (Nolturesh-Lumi)	26 th Sep 2013	07216682 kimeumus@yahoo.com
15. Emmanuel Parsaloi	Ilkisonko WRUA	Member	26 th Sep 2013	-
16. Hellen Njoroge	Ilkisonko WRUA	Treasurer	26 th Sep 2013	-
17. Pst Noah S. Roimen	Nolturesh WRUA	Chairman	26 th Sep 2013	-
18. Daniel Ndorko	Osoit/Entarara WRUA	Member	26 th Sep 2013	-
19. Emmanuel Samana	Osoit/Entarara WRUA	Chairman	26 th Sep 2013	-
20. Taiko Nakolito	Nailepu Conservancy	Chairman	27 th Sep 2013	-
21. Joshua Punuka	Kilitome Conservancy	Member	27 th Sep 2013	-
22. Samuel Kaanki	Kilitome Conservancy	Member	27 th Sep 2013	-
23. Kimare Mapena	Olepolos	Member	27 th Sep 2013	-
24. Lekala Kumari	Oltiani	Member	27 th Sep 2013	-
25. Douglas Meritei	Noolarami	Member	27 th Sep 2013	-
26. Peter Solonka	DRSRS	Research Officer	27 th Sep 2013	0727413762
27. Mamadi Ngonomi	Noolarami	Member	27 th Sep 2013	-
28. Peter Mwiti	Ministry of Education	DEO	27 th Sep 2013	0725552505
29. David Ngugi	Ministry of Education	Staffing Officer	27 th Sep 2013	0722653299
30. Alphose S. Musili	Department of Livestock Development	District Livestock Officer, Loitokitok District	14 th Oct 2013	-
31. Elijah Miriti	Department of Livestock	Assistant District Livestock	14 th Oct 2013	-

	Development	Officer, Loitokitok District		
32. Peter Mulei	Department of Livestock Development	Assistant District Livestock Officer, Loitokitok District	14 th Oct 2013	-
33. Esther Solonka	Department of Livestock Development	Assistant District Livestock Officer in Charge of Beekeeping	14 th Oct 2013	-
34. Benson Muriiki	Ministry of Agriculture	District Agricultural Officer, Litokitok	14 th Oct 2013	-
35. Benson Ngige	Ministry of Agriculture	Asst. Agricultural Officer, Loitokitok District	14 th Oct 2013	0704842799
36. Mr Mwiti	Min. of Education	DEO Loitokitok	15 th Oct 2013	0725552505
37. Patrick Ole Nangunin	Min. of Education	DEO office	15 th Oct 2013	0725552505
38. Mr. Kioko	Min. of Health	MOH Loitokitok	15 th Oct 2013	0721406614
39. Samar Ntalamia	Big Life Foundation	Project officer	14 th Oct 2013	programmes@biglife.org
40. Daniel Ole Sambu	Big Life Foundation	Cordinator, Predator Compensation Fund	14 th Oct 2013	predator@biglife.org
41. John Kiringe	SFS	Professor	17 th Oct 2013	jkiringe@fieldstudies.org
42. Mr. Axel	Tawi Lodge	Manager	18 th Oct 2013	-
43. Kenneth Mwangi	IGAD-ICPAC	GIS Expert	18 th Oct 2013	0721331094
44. Zainabu Salimu	KWS	Deputy Warden, Amboseli National Park	18 th Oct 2013	-
45. Francis Irungu	KWS	Community Warden, Amboseli National Park	18 th Oct 2013	-
46. Samuel Wanutha	KWS	Security warden, Amboseli National Park	18 th Oct 2013	-
47. Peter Mugi	Amboseli Mada Lodge	Manager	18 th Oct 2013	-
48. David Western	ACC	Chair of the Board of Trustees	23 rd Oct 2013	-
49. Evan Mkala	IFAW	Field Project Officer - Amboseli National Park Project	30 th Oct 2013	0722623771
50. Fiesta Warinwa	AWF	Country Director	15 th December 2013	-
51. Joel Wamalwa	KVDA	Environment Officer	16 th Dec 2013	0722332446

Appendix 5 - Validation workshop proceedings

**STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) FOR THE AMBOSELI
ECOSYSTEM MANAGEMENT PLAN 2008-2018**



**PROCEEDINGS OF THE VALIDATION AND ADOPTION WORKSHOP FOR THE
STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) REPORT,
WEDNESDAY 1ST OCTOBER 2014 AT THE AMBOSELI SERENA LODGE,
AMBOSELI NATIONAL PARK**

COMPILED BY:

TIFFANY MWAKE & SHARON MWENDE

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NAIROBI, KENYA**

October 2014

LIST OF ABBREVIATIONS

ACC	Africa Conservation Centre
AE	Amboseli Ecosystem
AEMP	Amboseli Ecosystem Management Plan
AET	Amboseli Ecosystem Trust
ATE	Amboseli Trust for Elephants
ATGRCA	Amboseli Tsavo Group Ranches Conservation Association
AWF	Africa Wildlife Fund
CPT	Core Planning Team
EIA	Environmental Impact Assessment
IFAW	International Fund for Animal Welfare
NEMA	National Environment Management Authority
SEA	Strategic Environmental Assessment
SFS	School of Field Studies

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1.0 INTRODUCTION

1.1. OPENING SESSION

The opening session was chaired by Mr. Julius K. Cheptei, Assistant Director KWS. The validation workshop started at 9.05 am with a word of prayer by KWS Senior Warden (Amboseli National Park), Madam Zainabu Salim.

The Session Chair, Mr. Julius Cheptei Assistant Director KWS welcomed the participants to the meeting and asked them to make brief introductions. Thereafter he informed the workshop participants that the Amboseli Ecosystem has many challenges and it urgently needs clear guidelines for ensuring its sustainability. He said that the workshop was convened in order to deliberate on the strategic environmental assessment (SEA) for the Amboseli Ecosystem Management Plan (AEMP) 2008-2018 by allowing the stakeholders to know about the comments received by NEMA on the Draft SEA report which they had earlier circulated nationwide for public review. He urged the participants to give their views openly and freely.

Mr. Cheptei highlighted validation workshop objectives as follows;

- Re-engaging in the finalization of the Strategic Environmental Assessment (SEA) of the Amboseli Ecosystem Management Plan (2008-2018).
- Communicating the public and institutional comments on the Draft SEA Report submitted to NEMA and actions taken. NEMA put an advert in the dailies for the public to give out their comments and the participants are to check if their comments have been captured in the report.
- Taking any additional contributions towards the finalization of the SEA report
- Validation and adoption of the SEA report.



Mr. Julius Cheptei during the opening session

1.2. REMARKS BY MR. DANIEL LETURESH – CHAIRMAN AMBOSELI ECOSYSTEM TRUST

Mr. Daniel Leturesh welcomed all the participants to the workshop. He explained that their final views on the SEA were required therefore he expected everyone to participate. Mr. Leturesh gave apologies for and

on behalf of the Cabinet Secretary of Interior and National Government Coordination, Hon. Joseph Ole Linkup and the area MP Hon. Kato Ole Metito who were unable to attend due to other official engagements. He appreciated that the AEMP (2008-2018) has come from so far through the coordination of the Amboseli Ecosystem Trust and AEMP and with a lot of challenges.

He said that AET was formed in order to implement the AEMP and explained the configuration of the AET. He indicated that the first task of the AET was to put up a moratorium to prevent haphazard development projects within the ecosystem. Secondly, they decided to set up an instrument to help manage resources in the ecosystem in a sustainable way because 90% of Amboseli Ecosystem land is community land which supports the pastoralist thus the need to help in managing the ecosystem.



Mr. Daniel Leturesh making his remarks

Mr. Leturesh concluded his remarks by thanking KWS, AWF, ACC, ATGRCA, IFAW, ATE, SFS CPT, Olive Branch and all community ranches in Loitokitok for their support in the process of formulation of the AEMP and the SEA process. He also welcomed and thanked colleagues from neighbouring Tanzania for finding time to come and participate in the validation workshop because Amboseli Ecosystem has many linkages with Tanzania. Mr. Leturesh declared the workshop officially open.

1.3. REMARKS BY MADAM ANN KAHIHIA – ASSISTANT DIRECTOR, KWS

Madam Ann Kahihia indicated that she was very happy with the progress of the AEMP because the planning process begun and took place while she was an Assistant Director for the region before she relocated. She said that she has been keeping up to speed with the process since she was in charge of Southlands Region before she was transferred. The Director expressed her hope that the SEA process will support the effective implementation of the AEMP.

1.4. REMARKS BY MR. EMMANUEL KANAI CHAIRMAN – ATGRCA (ALSO CHAIRMAN OF KUKU GROUP RANCH)

Mr. Kanai said that the Amboseli Ecosystem consisted of 6 Group Ranches which decided to establish a unifying framework for sustainable development through Amboseli Tsavo Group Ranches Conservation Association. He said the ecosystem has been experiencing a wide range of challenges socio-economic and environmental. For this reason, the ATGRCA decided to establish the AET in order to join forces with other partners and deal with various issues in the region. In the course of time, ATGRCA established the Amboseli Tsavo Game Scout Association (ATGSA) in order to deal with the challenges of poaching and human wildlife conflicts in the area as well as insecurity. He said that the community respects the association and cases of poaching and insecurity are rare. The trust is beneficial because it works well with the group ranches. There is also good collaboration with Tanzania which is a good thing for the Amboseli ecosystem.

Mr. Kanai indicated that currently the major challenge they are having is subdivision of group ranch land due to increasing population. The locals in the community want to own land therefore shrinking the land available for conservation of wildlife. The local people want also private ownership of the land in order to undertake different land uses such as leasing for agriculture or selling to investors. This poses a huge threat for the ecosystem. He said that it was through for a like the SEA validation workshop that stakeholders could consult and deliberate, the ecosystem in order to ensure that it remains intact with sufficient land for wildlife conservation, sufficient grazing areas for the livestock and community land for the people. Mr. Kanai emphasized on the need to promote education. He said the community should value education so as not to lag behind in the sustainable management of resources in their ecosystem. In conclusion he said if all stakeholders in the Amboseli Ecosystem work together with AET they will find a way to run group ranches, have pasture, land for wildlife and have their culture intact. They should ensure there is no selfishness when dealing with the ecosystem as it is the only hope for the current and future generations.



Mr. Kanai making his remarks

1.5. REMARKS BY MR. DUNFORD PETLOL – REGIONAL COMMISSIONER, LONGIDO DISTRICT, ARUSHA

Mr. Dunford Petlol thanked the Amboseli Ecosystem Trust for the invitation to attend and participate in the SEA validation workshop on behalf of the government and neighbouring communities in Tanzania. He said that he and has attended many other meetings on the Amboseli Ecosystem. The Regional Commissioner reiterated the fact that wildlife are not aware of international boundaries and they migrate across the boundary of Kenya and Tanzania. He said that it was therefore the duty of the communities and resource managers on both sides to take care of natural resources including wildlife and protect them to ensure their survival for the benefit of the region. He confirmed that they will scrutinize the SEA report and establish what our duties are and then work collaboratively with their colleagues on the Kenyan side.



Mr. Dunford Petlol making his remarks

1.6. REMARKS BY JUSTUS METITO - SUB-COUNTY ADMINISTRATOR- KAJIADO SOUTH

Mr. Justus Metito said conservation needs all stakeholders involved thus the meeting was called for the stakeholders to give their opinions regarding the Amboseli ecosystem. He said that there is need for collaborative effort in order to ensure the successful implementation of the AEMP.



Mr. Justus Metito making his remarks

1.7. REMARKS BY JEREMIAH RATUNGA OLE KIKUA - DEPUTY COUNTY COMMISSIONER – KAJIADO COUNTY

Mr. Jeremiah Kikua said he represents the National Government and was happy to be involved in the SEA validation workshop. He commended the excellent spirit of collaboration and partnership involved in the AEMP process. He elaborated that from the workshop programme it was quite clear that many institutions are involved in conservation of the Amboseli Ecosystem which is a good gesture. He added wild animals do not know national boundaries and can lead conflict between Kenya and Tanzania. The DCC reiterated the commitment of the National Government to support the AEMP implementation.



Mr. Jeremiah Ole Kikua making his remarks

1.8. REMARKS BY DR. NOAH SITATI- REGIONAL DIRECTOR, AWF

Dr. Sitati introduced all the members of the Core Planning Team (CPT) of Amboseli Ecosystem Management Plan. He said that the CPT is in charge of monitoring everything that goes on in the ecosystem. He said that the CPT identified Habitat Planners to carry out the SEA on the AEMP and thanked Dr. Francis Mwaura and his team for the good job they have done. He concluded by confirming that the AWF will support the AEMP process to the end. He said that the AEMP is the only ecosystem based plan we have in the country therefore all the stakeholders should be proud of it.



Dr. Noah Sitati making his remarks

1.9. REMARKS BY DR. SAMUEL KASIKI – DEPUTY DIRECTOR, KWS

Dr. Samuel Kasiki began by giving apologies of the KWS Director who could not attend due to other pressing official duties. He explained that the Amboseli stakeholders are trying to conserve scarce wildlife heritage which maintains the Amboseli Ecosystem as a key tourist destination. He said that the local community may not see the importance of the wildlife but the Amboseli Ecosystem is one of the few places in the country that have viable wildlife populations. He stated that wildlife census by KWS in the area have shown an increase in the populations in contrast to other areas in the country. He commended the stakeholders for setting this record.

The Director said that one challenge in the Amboseli Ecosystem is the issue of diminishing land as a result of increased human population which leads to human wildlife conflict. He said that in conservation, there is an important concept known as the concept of Triple E - Economy, Equity and Ecology. He said that the Economy pillar is expected to generate revenue for the stakeholders (which can be looked at in terms of the value of the animals to the community), the Equity pillar signifies the fact that everyone has a stake in the ecosystem and how the resources will be shared equitably. Equity also involves issues on human rights and so what have the community done or not done to ensure conservation of the wildlife because they too have rights. The Ecology pillar represents the motherboard of all interests in the ecosystem. He reiterated that ecologically what goes on in one part of the ecosystem such as flow of water and movement of animals is part of the ecosystem and should be sustained because that is how that part of the world was structured. He added that activities like land subdivision to carry out farming will deplete water resources for the local people and may destroy critical habitats for the wildlife thereby eliminating key natural heritage from the area. .

The Director concluded by emphasizing that the Amboseli stakeholders should look for a sustainable road map to achieve the three Es. He said that the formulation of the Amboseli Ecosystem Management Plan to manage resources has been a long journey and the workshop is one of the last steps of the long journey.



Dr. Samuel Kasiki making his remarks

Dr. Kasiki reiterated that KWS has a vision of saving the last great species in Kenya on earth for humanity as part of international effort. KWS will continue to out outreach services to pastoralists and farmers in the area on how well to practice farming while conserving the environment. He also encouraged the local people in Amboseli to not focus on pastoralism alone but also engage in activities such as ecotourism in order to generate more alternative income. He said that final SEA report will hopefully make it possible to move in a common direction towards a sustainable long term future for the Amboseli Ecosystem.

1.10. REMARKS BY MADAM MARGARET NJUKI - CHIEF COMPLIANCE OFFICER, NEMA

Madam Njuki gave apologies for the Director General of NEMA, Professor Geoffrey Wahungu who was busy on other urgent matters. She explained NEMA has been involved in the SEA process for the AEMP right from the beginning. She said that it was now one year since the process began. She added that It has not been an easy journey but there has been a lot of commitment from those involved.

Madam Njuki state that the SEA is a relatively new environmental tool in Kenya but has widely been practiced in other countries for quite some time. She said that in Kenya we have mostly relied on the traditional Environmental Impact Assessment (EIA) as an environmental tool. However, NEMA recently realized that EIAs may not completely deal with the long term and large scale impacts of intensive development programmes and plans hence the need to encourage the use of the SEA tool which has a much broader view. She said that SEA incorporates environmental concerns into the plans, programmes and policies at the early decision making process.

Madam Njuki reiterated that the SEA is a participatory process as evidenced by the participation in the AEMP SEA validation workshop. She noted that according to the constitution, it is a requirement for any development intervention in order to allow all stakeholders affected by a proposed project to be involved in

the strategic decision making process since it will affect them for a long time and sometimes permanently. She said that consequently, NEMA as a matter of common practice instructed the AEMP proponent to place an advert on the SEA Draft Report in the newspaper so that interested stakeholders could read and submit their comments to NEMA. She urged the participants to contribute issues which they think can be added in the final SEA report.



Madam Margaret Njuki making her remarks

Madam Njuki indicated that after the validation workshop, if there are no major concerns NEMA will proceed and approve the AEMP SEA with conditions in conjunction with other stakeholders, after which the gazetting of the AEMP can proceed. The plan will then be good for implementation.

Finally, the CCO reiterated that NEMA is committed to the protection the Kenyan environment in the spirit of their slogan “Mazingira Yetu, Uhai Wetu, Wajibu Wetu”. She concluded by urging all Kenyans to comprehend and advocate for the slogan because if you destroy the environment there will be no life for the future.

1.11. REMARKS BY MR. MOSES MURUNYA - CHIEF EXECUTIVE OFFICER, ENVIRONMENT, WATER & NATURAL RESOURCES – KAJIADO COUNTY GOVERNMENT

Mr. Moses Murunya said he was representing the Governor of Kajiado, Dr. David Nkedianye who was unable to attend due to other duties. He state that he was therefore representing the county government. The CEO said that the County Government of Kajiado has lent its support to the entire SEA process of the AEMP as well as the plan itself. He said that the validation workshop was a very important step which will ensure gazetting of the AEMP. He thanked the various stakeholders who have been involved in the SEA process especially AET, ATGRCA, KWS, ACC, AWF and IFAW. He was happy that most of the stakeholders were represented in the validation workshop including those from national and county

governments, and Tanzania. He noted that various stakeholders from different fields have been represented such as Local Chiefs, forest department, livestock and agriculture department. This was a clear indication that the government fully supported the process.



Mr. Moses Murunya making his remarks

Mr. Murunya said that the goal of the County Government was to ensure the AEMP is approved, gazetted and implemented. He also informed the participants that the County Government of Kajiado is in the process of preparing a comprehensive Land Use Spatial Plan for the entire county which will guide future development and regulate the use of natural resources in the county. He said that the Land use Spatial Plan will process will be informed by the AEMP and that 90% of those in the Core Planning Team of the AEMP are in the team developing the County Spatial Development Plan.

2.0 SEA PROCESS FOR AMBOSELI ECOSYSTEM MANAGEMENT PLAN

The session was chaired by Professor John Warui Kiringe from the School for Field Studies. He invited NEMA to explain to the participants how the SEA from the AEMP was conducted and evaluated by the Authority.



Professor John Kiringe moderating the second session

2.1. AEMP SEA EVALUATION - MADAM OCEANIC SAKWA (SENIOR COMPLIANCE & ENFORCEMENT OFFICER), NEMA

Madam Sakwa commended the County Government of Kajiado for making a bold decision to develop a County Spatial Land Use Plan and encouraged them to also consider carrying out a SEA for the Spatial Plan. She informed the participants that Strategic Environment Assessment (SEA) is a decision making tool that is used to integrate environmental considerations into policies, plans and programmes. She reiterated that a good SEA process informs the interested and affected parties on the sustainability of strategic decisions, identifies best alternatives and ensures democratic decision making. She said that a good SEA must be properly integrated, should involve many stakeholders as possible and should be sustainability oriented with a focus on the long term future. She said that a good SEA is focused and accountable to all stakeholders. It should also be iterative and not static.

Madam Sakwa then took the participants through the chain of events regarding the SEA process for the AEMP which she said included the following key milestones

- a) The National Environment Management Authority (NEMA) received the Plan Brief prepared by Habitat Planners & Environmental Consultants on behalf of the Amboseli Ecosystem Trust (AET) on 6th September 2013.
- b) The Plan Brief was reviewed by NEMA which concluded that there was need to carry out a Strategic Environment Assessment and wrote to the proponent vide a letter dated 24th September 2013 informing of the same.
- c) The proponent was informed about the decision and thereafter submitted a SEA Scoping Report as per the National SEA Guidelines on 4th of October 2013.
- d) The SEA Scoping Report was reviewed and issues were raised to the proponent vide the letter dated 15th October 2013 that needed to be addressed.
- e) The proponent through their Consultants submitted a revised SEA Scoping Report which was received by the Authority on 26th November 2013.
- f) The Authority reviewed the revised SEA Scoping Report and wrote a letter to the proponent dated 10th December 2013 in which several issues needed to be clarified.
- g) The proponent through their Consultants resubmitted the Scoping Report and Terms of Reference which were received by the Authority on 17th February 2014.
- h) The Authority approved the SEA Scoping Report vide our letter dated 26th February 2014 whereby they were advised that effective and sustained public/stakeholder engagement and appropriate communication methods are vital for the SEA process.
- i) The Draft SEA Report was received by the Authority on 10th March 2014.
- j) The Draft SEA report was dispatched to the relevant Lead Agencies on 18th of March 2014.
- k) The Authority prepared notices for the proponent to publish in the Kenya Gazette and daily newspapers of nationwide circulation dated 1st April 2014.
- l) The adverts were done dated 11th April 2014 and 14th April 2014 and the proof submitted to the Authority.
- m) Kenya Gazette Notices dated 9th May 2014 and 16th May 2014 were submitted to the Authority.
- n) The Authority reviewed the Draft SEA Report and wrote to the proponent to include issues raised after the public disclosure period to be followed by a validation workshop

Madam Sakwa highlighted the key issues raised on the Draft SEA Report from the public review as follows:-

- i. Development of water allocation plans for the sub catchments within the ecosystem
- ii. Supporting WRUAs to develop and implement Sub catchment Management Plans (SCMPs)

2.2. REACTIONS TO THE NEMA PRESENTATION

- a) Professor Kiringe (SFS) emphasized the workshop was to decide whether the SEA Report was considered as good or not and also whether the AEMP considers environmental issues effectively or not. He said with NEMA being present in the workshop, it showed the SEA Report was conducted according to the protocol in the National SEA Guidelines (2012).
- b) Mr. Cheptei (KWS) said the area is still under the moratorium but many investors are awaiting the lifting of the moratorium in order to continue with proposed development in a safe and sustainable way after the AEMP is gazetted.
- c) Madam Njuki (NEMA) responded by saying the SEA report has to be finalized then NEMA will give approval with conditions. The AEMP is to be gazetted and implemented then the moratorium will be lifted after which new developments can take place.

- d) Mr. Cheptei (KWS) said there were a number of disturbing issues on the ground, such as the proposed establishment of a golf course. He said the developer is in contact with the government but not the people on the ground.
- e) Madam Njuki (NEMA) responded by saying once the AEMP is gazetted developments will start but they must adhere to the AEMP guidelines. If the golf course does not meet the guidelines of the AEMP it will not be allowed.
- f) Mr. Leiyen (AET) commented that even while the moratorium was still in force, there are some illegal activities being carried out such as the new airstrip in the area which the AET has been trying to follow-up. He said the airstrip is supposed to be closed down but it is still operational. How can they deal with that?
- g) Madam Njuki answered if the airstrip management was asked to stop operations they should have. If they haven't they should be reported to NEMA immediately. Mr. Leiyen was asked to give more details to NEMA representatives so that they can do a follow up.

2.3. PRESETATION OF THE REVISED FINAL SEA REPORT- HABITAT PLANNERS

Dr. Mwaura informed the participants his presentation was on the Amboseli Management Plan SEA process which was commissioned by the AET in September 2013 in response to the Amboseli Moratorium Declaration of 28th February 2013, later extended to September 2014. According to the Moratorium, there was to be no licenses issued for new developments for activities in the Second Schedule of the EMCA (1999) until the AEMP (2008-2018) is gazetted. The gazetted AEMP is expected to serve as a regulating instrument for future development in Amboseli. The gazettelement of the AEMP required a Strategic Environmental Assessment to be done. Habitat Planners was contracted to do the SEA through competitive bidding.

He said that Habitat Planners is a registered firm based in the City of Nairobi whose key institutional clients in the recent past included KEPHIS, NEMA, Pact-Kenya, Former Ministry of Northern Kenya & other Arid lands, Cortec Mining Company and KenGen. He stated that the firm has good experience in Kenya having previously conducted an NRM Programme SEA for Pact Kenya and currently conduction another Programme SEA for the KenGen Geothermal Expansion in Olkaria and Eburu in partnership with an international firm.



Dr. Francis Mwaura presenting the revised SEA report

Dr. Mwaura stated that the AEMP SEA was conducted by a team of 7 well selected experts and had the following objectives:-

- a) Assessing the level of integration in the AEMP of national environmental policies and legal frameworks,
- b) Assessing whether the 250 proposed activities in the AEMP are compliant with EMCA (1999) and its regulations,
- c) Assessing the level of integration of the environmental obligations in other relevant national plans and strategies,
- d) Assessing the level of integration of relevant trans-boundary and MEAs, and
- e) Stakeholder engagement and consultation on the long term environmental implications of the AEMP

He stated the Client's Terms of Reference of the SEA process as follows:

- a) Determining the scope of the SEA
- b) Establishing participatory approaches to bring in relevant stakeholders
- c) Collection of baseline information and situation analysis
- d) Identification of alternative options
- e) Identification, prediction of impacts and determination of significant impacts
- f) Identification of measures to enhance positive opportunities and mitigate adverse impacts
- g) Preparing a Draft Report for national public review through NEMA
- h) Preparing a Final SEA report

He said that this was the second major stakeholder workshop for the SEA after the dialogue workshop conducted on 28-29 November 2013 in Loitokitok. He also informed the participants that the AEMP SEA process was exhibited in the launch of the National Strategic Environmental Assessment (SEA) Guidelines on Tuesday 13 May 2014, at Panafric Hotel Nairobi.

Dr. Mwaura informed the participants that the Draft SEA report was a 125 page Document was circulated throughout the country for comments by NEMA. The comments on the Draft SEA Report from National public and peer review were very few and they were mostly on water issues as already highlighted in Madam Sakwa's presentation.

Thereafter, he took the audience through the revised SEA report which is a 266 pages document which was available for scrutiny in the Habitat Planners website (www.habitatplanners.co.ke). He indicated that the participants had been requested to go through the Final SEA Report in the two weeks preceding the validation workshop. Dr. Mwaura then highlighted the content in the following sections of the Final SEA Report:-

Section 1: Introduction – Including the role of strategic environmental assessment (SEA) in sustainability analysis for management plans

Section 2: Amboseli Ecosystem Management Plan (2008-2018) - Including the rationale for undertaking a strategic environmental assessment for the AEMP (2008-2018) and the SEA ToR

Section 3: Scope, approach and methodology

Section 4: Description of the environmental baseline situation - Including the current and future environmental scenarios

Section 5: PPP analysis

Section 6: Stakeholder consultations and public concerns

Section 7: Plan impact analysis, mitigation measures and alternative options

Section 8: Environmental management and monitoring plan (EMMP) - He indicated that the NEMA mitigation requirement on development of sustainable Water Allocation Plans and development and implementation of WRUA SCMPs was addressed under Section 1 of the EMMP (Ecological management programme).

Dr. Francis Mwaura invited Mr. Phillip Wandera (HP) to highlight the conclusion and recommendation main messages in the final report.

Mr. Wandera highlighted the main SEA conclusion messages as follows:-

- a) The AEMP (2008-2018) was generally found to a good and commendable plan with minimal negative environmental impacts. It had embraced the spirit of integrated management and ecosystem approach. It is very neat and well organized. However, the plan has not fully integrated all national obligations for environmental sustainability as reflected in the environmental PPPs. The plan has also not adequately integrated trans-boundary and international environmental obligations. Some of the affected policies are:
 - National Land Policy (2009)
 - National Wildlife Policy (2011)
 - National Forest Policy (2005)
 - National Tourism Policy (2007)
 - National Gender and Development Policy (2000),
 - National Policy on Peace Building and Conflict Management (2006)
 - National Policy on Wetlands Conservation and Management (2013)

- National Gender and Development Policy, and National Policy for Disaster Management (2009).
- National Policy for the Sustainable Development of Arid and Semi-Arid Lands of Kenya (2012)

Some of the affected plans and strategies are:

- Kenya Vision 2030
- National Biodiversity Strategy and Action Plan (2000)
- National Climate Change Response Strategy (2009)
- National Environment Action Plan (2009-2013).

Some of the affected trans boundary frameworks and MEAs:

- EAC Climate Change Policy (EACCCP, 2011),
- EAC Protocol on Environment and Natural Resources
- The Seville Strategy for the Management of the UNESCO Biosphere Reserves,
- Madrid Action Plan (2008-2013) for Biosphere Reserves, and
- United Nations Framework on Combating Climate Change,
- United Nations Convention to Combat Desertification.

- b) The SEA established that the AEMP has a weak plan implementation framework. Many stakeholders were involved in the planning but most are missing in the implementation framework (AET).

Mr. Wandera highlighted the main SEA recommendation messages as follows:-

- a) The management plan should be gazetted, pending review and incorporation of recommended alternative options in phases.
- b) Other subsidiary management plans (e.g. Olgulului-Ololarashi Conservation and Development Plan, 2011-2021 and the Kimana Integrated Wetland Management Plan, 2008-2013) should be gazetted together with the AEMP in order to strengthen it by ensuring sufficient grass root domestication.
- c) In cases where other plans are contradicting the AEMP, the later shall prevail
- d) The implementation framework (AET) should be adjusted to make it all inclusive especially with regard to the GoK stakeholders
- e) No further tourism investment should be allowed in the following areas due to the current high level of environmental impact:
 - Amboseli National Park
 - South Eastern Border of Amboseli National Park
 - Kimana area
- f) Future tourism investment should be undertaken outside Amboseli National Park especially within the various Community Conservancies in the area

Mr. Wandera on behalf of Habitat Planners acknowledged the support of various stakeholders during the SEA process that included AET, KWS, ACC, AWF, IFAW, ATGRCA, Group Ranches, Conservancies, WRUAs, GoK – WRMA, NEMA, Agriculture, Livestock, Education, Health, the Private sector- Tourist Hotels & Camps – Amboseli Serena, Mada, Tawi, Satao-Elerai, Sopa, Big Life Foundation, SFS and the general public.

2.4. REACTIONS TO THE PRESENTATION BY HABITAT PLANNERS

The Consultant's presentation raised a number of immediate reactions from the participants as follows:-

- Mr. Sipitek asked if there are any transboundary policies that were considered and included in the AEMP.
- Mr. Leturesh asked for clarification of the gazettment process because he did not understand it clearly. Also, he has a challenge with the implementation of the Olgulului-Ololarashi Management Plan. He insinuated that the local community want to subdivide the land.
- Mr. Mapi responded by stating the land cannot be subdivided until the management plan is implemented. He suggested that experts should be appointed to develop a sustainable subdivision plan.
- Mr. Koikai reminded the participants the bed capacity issues is a major concern for the management plan whereas the SEA which is the agenda for the workshop was on the AEMP. He urged the participants to focus on the SEA.
- Dr. Kaaria brought in a different perspective stating there are numerous management plans being formulated but nothing much is happening on the ground. He also raised the issue of who would do the gazettment of the AEMP. Would it be KWS or NEMA?

Dr. Francis Mwaura on behalf of Habitat Planners responded as follows:-

- The SEA report had identified a number of transboundary policies which need to be integrated into the AEMP. These include a) East Africa Protocol on Natural Resources, b) East Africa Policy on Climate Change and c) East Africa Community Guidelines on Transboundary EIA.
- The SEA recommendation was for the AEMP should be gazetted as-is but together with the recommendations of the SEA (annexed) and the SEA recommendations incorporated in the AEMP during the plan review.
- All other subsidiary local area management plans such as the Olgulului-Ololarashi Conservation and Development Plan (2011-2021) and the Kimana Integrated Wetland Management Plan (2008-2013) should be gazetted together with the AEMP in order to strengthen it by ensuring sufficient grass root domestication. In any cases where other local area plans are contradicting the AEMP, the later shall prevail.
- It would be unfortunate for the Group Ranches and other stakeholders to shelve and throw-away the local area management plans such as the Olgulului-Ololarashi Conservation and Development Plan (2011-2021) and the Kimana Integrated Wetland Management Plan (2008-2013 which had take a lot of time, money and stakeholder consultations to develop.
- He said that after listening listening to the stakeholders majority feel that if the subsidiary management plans are gazetted they will have more muscle and time was taken to prepare them. If it is possible they can be gazetted if they don't affect the AEMP but it should be known the AEMP is superior should a dispute arise.
- Madam Njuki clarified that the gazettment of the AEMP should be championed by KWS.

3. PLENARY

The afternoon session was a plenary which was jointly moderated by Habitat Planners and AET who were represented by Mr. David Kitasho (AET) assisted by Mr. Koikai Oloiptip and Prof. John Kiringe (SFS/HP).

Professor Kiringe opened the session by informing the participants it was not possible to agree 100% on all the issues raised in the forum. He reminded them that the key agenda for the workshop was the validation of the revised SEA report and not introduction of issues already discussed and agreed in previous consultation meetings.. If there are any problems they can be dealt with later but for now the process has to move on. If any problems arise in future the experts can be consulted to make the necessary changes. He said that at the moment a number of key issues of importance had emerged as follows:-

- a) Total acreage for conservancies in the Amboseli region and the acceptable bed capacity in order to prevent the negative impacts which had led to the moratorium
- b) Gazettement of subsidiary management plans.
- c) Policy on gazettement of the AEMP.

The floor was then opened for the participants to give their reactions which they did as summarized below:-

- Mr. Koikai (AET) explained the SEA report was to act as a guide on how other activities will be carried out in the Amboseli Ecosystem (AE) in addition to the guidelines in the AEMP. The subsidiary management plans such as the ones for Olgulului-Ololarashi Group Ranch and Kimana Wetland are supposed to add weight to both the AEMP and SEA Report. Reviewing of the AEMP is to be done after every 3 years, as of now it is due and the recommendations of the SEA will be used to guide reviewing of the AEMP by filling the gaps which the SEA has identified. He clarified that the key goal is the gazettement of the AEMP after the approval of the SEA report in which the recommendations of the report will appear as one of annexes. He assured the participants that the subsequent reviews of the AEMP will be all inclusive and sufficiently participatory to allow all stakeholders to bring in any new ideas they may have.
- Mr. Koikai (AET) said that Wildlife Act is required for implementation of gazettement of the AEMP but the rules and regulations for this have to be been passed. He also noted that some of activities in the AEMP will require approval by NEMA as highlighted in the SEA report. He emphasized the need to fast track the gazettement because they cannot live with the moratorium forever, the plan needs to be gazette and there will be chances to improve and review the plan in future.
- Dr. Kaaria (KWS) proposed for the approval of the Final SEA Report by NEMA and formulation the rules and regulations by KWS for the gazettement of the AEMP should go concurrently in order to save time. The 60 days review period stipulated by NEMA is enough for preparing the rules and regulations for gazetting the AEMP.
- Madam Njuki (NEMA) clarified that when the AEMP was developed the Environment Management and Coordination Act through NEMA was involved in drawing the rules and regulations for the gazettement of management plans. However, following the recent review of the Wildlife Act it is now the mandate of KWS to come up with the regulations while NEMA will play an oversight role as the Authority in charge of environment.
- Mr. Sipitek (ACC) said the SEA has encompassed all the things required in the review of the AEMP. However, there was still the pending issue of sustainable bed capacity in the tourist facilities in the area in order to minimize the negative impacts which led to the Amboseli Moratorium. He said that probably the Amboseli Ecosystem can compare notes with the Masaai Mara Region so that they can borrow some leaf. He concluded by requesting that Mr. Dickson

Kaelo, the Chairman of the Kenya Community Conservancy Association, who is also from the Mara region be allowed to share ideas on the same.

- Professor Kiringe (SFS/HP) suggested that the participants to pick on an item discuss it and bring it to a logical conclusion and then move to another. It was agreed that the bed capacity issue is suspended until it is decided if it is NEMA or KWS who is mandated to gazette the plan.
- Mr. Koikai (AET) clarified the issue has been sorted through Dr. Kaaria's idea of allowing KWS to develop the gazettment rules and regulations within the Wildlife Act through which the issue could also be considered from an authoritative point of view.
- Dr. Kasiki (KWS) reminded the participants that the workshop had very specific outputs base on the workshop objectives. He indicated that most of the issues raised had probably been addressed in the SEA report but most people may not have looked at the report closely. On the issues of the conservancy bed capacity and the formula to be used to determine the optimum number of tourist facilities per unit area, he said there may not be a definite answer because that is a highly technical issue. He also agreed with previous contributors that the Wildlife Act was better placed to deal with the issue of AEMP gazettment after approval of the SEA report by NEMA. He urged the participants not to go into finer details since the workshop is meant to move things ahead.
- Mr. Kitasho (AET) stated the SEA has been well done as it shows accurately what the stakeholders wanted in the ecosystem. Therefore they should look into small details like the acreages that stand out that need to be changed in order to make the SEA better.
- Mr. Koikai (AET) reminded the participants that it had already been agreed the SEA report finalization will go hand in hand with the preparation of the gazettment of the management plan. Everyone sees the urgency of gazetting the plan. The community and the interested parties have played their role then the plan should move to the next step, there is no opposition there.
- Mr. Kitasho (AET) informed the participants he comes from Elesare Group Ranch, they have a conservancy which has 7000 acres and tourist facilities with a capacity of only 18 beds because they are looking for ways of not destroying the environment. They participants should raise issues on how to manage the environment. The bigger the lodge the bigger the area and so the greater the damage.
- Mr. Dickson Kaelo (KCCA) said the Masaai Mara has not yet conducted a SEA on the Masai Mara Management Plan and commended the Amboseli Ecosystem for undertaking the assessment. On the issue of bed capacity, He indicated that for them it was largely a business decision. He said that for them, some key considerations included the kind of tourism destination they wanted to promote which need to also ensure a quality environment. However, he cautioned that they had encountered many challenges in the process. He gave the alternative of considering other countries that are tourist destinations such as Australia and looking at their bed ratio per area. In his opinion, it might be difficult to come up with a fixed number of beds but preferable there should be a less beds as possible. He added that in the Masaai Mara they mostly work with guidelines that are in place, for example, medium to upscale tourist facilities with 750 acres per tent which houses 2 beds. These guidelines also determine the size of the lodge and the land to be conserved.
- Mr. Julius Cheptei (KWS) reminded the participants that uncontrolled tourism development was the main cause for the moratorium declaration in the area. He asked the participants to look at the map of Amboseli Ecosystem which clearly showed that many investors are targeting the Amboseli Ecosystem. It is not good to allow a lot of settlement near and within the park. The decision being made is coming up with the regulations for gazettment. He urged the participants to focus on recommendations of the SEA for the AEMP and address them and those issues that need to be removed be done so for the AEMP to move to the next stage.

- Mr. Kitasho (AET) stated the group ranches surrounding the park are what necessitated the AEMP. Therefore, without the group ranches the AEMP was useless. He said that it was up to the Amboseli-Tsavo Group Ranch and Conservation Association (ATGRCA) to ensure the Amboseli Ecosystem is maintained.
- Mr. Ole Kikua (Ministry of Interior) reminded the participants this is a validation workshop meant to remove what is invalid and confirm what is valid. He asked for clarification for the gaps in land policy and how it can be integrated in land tenure. He questioned how the Chairman of Olgulului and Ololarashi was advocating for land subdivision despite its numerous negative impacts many of which had been raised in the SEA report. He pointed out that there was a gap on disaster management policy. On culture, he said the Masaai was the only tribe left that has retained their culture in its natural form, through artifacts, music, clothing and piercing. Is there a policy on cultural issues because when the tourists visit Amboseli National Park they also experience the Masaai culture? Has the education policy been incorporated in the SEA report? Finally, he said that the Amboseli ecosystem should be protected against interference from individual vested interests.
- Mr. Joel Lesale Odupoi (KWS) commented on the bed capacity issue. He said the aim of creating number of beds per area is to be able to conserve as much natural land as possible for wildlife and livestock. Olgulului has already been subdivided into smaller parcels of land than other surrounding areas with the smallest parcel at 10 acres compared to Kimana Group Ranch with a minimum 60 acres. He suggested that it is hard to come up with a fixed bed capacity per acreage since those who do not meet the threshold but have already existing facilities have to be considered.
- Dr. Mwaura (Habitat Planners) responded to Mr. Ole Kikua's question on disaster management policy. He explained that the consultants' counter checked the policies against the plan and found out it wasn't adequately integrated especially with regard to the issue of Disaster Risk Reduction including the domestication of the Hyogo Framework. In the search for relevant PPPs in that area they did not come across any they could use for culture but it is a good proposal. They will look into it and see if there is any tangible framework. . On the issue of bed capacity, he said the consultants had tried to identify the best practices from other parts of the world but the issues was very challenging as was clearly emerging in the validation workshop. He indicated that the Consultants would consult Mr. Apollo Kariuki and his planning team at KWS as well as other stakeholders and identify the best way forward on this matter which will then be incorporated in the revised final SEA report.
- Mr. Wandera (Habitat Planners) explained that the consultants went around and gathered the views of the wide range of stakeholders regarding the issue of bed capacity per area and the opinions were highly diverse. He indicated that in the absence of an agreed position the issue could be left out but it would eventually have a serious implication in the future hence the need to establish some control.
- Mr. Koikai (AET) agreed with Mr. Odupoi (KWS) that it might be difficult to reach a definite agreement on the ratio of bed capacity to acreage but what the SEA recommends is what should be followed. Although this is not cast on stone changes can always be made. In the review the CPT will look into it and will ensure it will all inclusive. He clarified that on the matter of disaster management, and as much as the AEMP is inadequate there is need for the SEA to address specific areas and their likely challenges and mitigation in order to clearly guide the AEMP review. so as to know where to review the management plan. What the SEA is doing is showing all the
- Professor Kiringe (SFS/HP) informed the participants that HIV/AIDS management need to be incorporated in the SEA and consequently in the AEMP. He said that in a study they undertook in

2009, the findings showed how the Cultural Manyattas are becoming the epicenters of the spread of the disease even as they are windows for transforming the socio economic welfare of the local people.

- Mr. Kitasho (AET) concurred with Professor Kiringe and urged the consultants to look into this strategic challenge in the final SEA report as well as policies on education and culture.
- Mr. Cheptei (KWS) commented on the importance of ensuring continued space for the wildlife in the area. In his opinion, the information in the SEA report was quite useful and should remain while additional issues could be incorporated during the final review.
- Mr. John Kamanga (SORALO) emphasized the need to consider important issues in the AEMP and allowing the SEA as an instrument to help improve the plan and the future management of natural resources in the ecosystem. He said that people have many different views and interests but the key aim is to ensure a peacefully co-existence even with the wildlife. He observed that conservationists are currently having a hard time and are being left out because most people look into the economic value of resources instead of the values and benefits of conservation. He said that it very scary if Olgulului Group Ranch is subdivided because once the title deeds fall on individuals regulation might become very difficult. He said that as a person coming from the Magadi Region, they will monitor what is happening in the Amboseli and if successful they will adopt it but will avoid any mistakes which the Amboseli people make at this time.
- Mr. Ole Sambu (Big Life Foundation) said the Amboseli community supports the AEMP and SEA findings. He said the small issues should be addressed so that resources can be kept intact.
- Mr. Mwato (ACC) state that the findings of a research carried out in 2 months in cultural villages in Ngong Narok showed that they could generate revenue of 73 million but because of reverse trade which involves middlemen such as tour operators and the high population with 400 registered members per village, they are left with 1.5 million. He said that was one of the reasons why the people want to subdivide the land. The society feels they are not receiving what they are worth. He said that if the County Government of Kajiado can make policies that allow for equitable distribution of resources the problem could be minimized. He suggested that if Amboseli National Park (ANP) has a lot of visitors every year, at least a quarter of these usually find themselves in cultural villages which should allow the community to generate enough revenue to sustain them.
- Mr. Daniel Leturesh (AET Chairman) said he is happy the AEMP/SEA process was nearing its end because he has been present since the early stages of preparation of the management plan which was in 2006. However he cautioned the participants, although they want to gazette the plan and make necessary changes later they should commit to the document all through. He wanted clarification on integration of the smaller management plans of the conservancies into the AEMP. He explained that he succumbed to pressure in the subdivision issues in the Olgulului and Ololarash Group Ranch. The local residents had consulted him, to which he called a meeting but the residents persisted they wanted to have individual ownership of their land. He confirmed that it is not that he personally supports the group ranch subdivision.
- Mr. Kitasho (AET) brought the plenary to an end by asking the participants by the show of hands, to indicate whether they agree to validate and adopt the SEA report, to which all participants raised their hands and agreed to adopt the SEA report.



Mr. Daniel Leturesh leading the working participants in the Validation and adoption of the SEA report by show of hand

4. CLOSING SESSION

- Mr. Phillip Wandera (Habitat Planners) thanked the participants for validating and adopting the revised SEA Report. He informed them the Habitat Planners secretariat has been taking notes and would incorporate the stakeholders' views as much as possible in the final report. He explained that Consultant will also prepare the workshop proceedings and append in the final SEA Report which should be ready for submission to NEMA within two weeks. Thereafter, the matter will be in the hand of NEMA who will make a decision within a period of 60 days according to the 2012 National SEA Guidelines.
- Madam Njuki (NEMA) assured the participants that after the Final SEA Report reaches the NEMA office, the decision making can even take place within a period of one to two
- Professor Kiringe (SFS/HP) reminded the participants that he has been involved in the AEMP journey now for the past 14 years. Approving the SEA for the management plan was the right decision. Research done by Dr. Western which recommended the development of the plan began in the 1960s and it is good that the dream of the Amboseli people will finally be achieved. He urged the AEMP implementation team to do a good job and avoid killing the dreams of many stakeholders and the needs of the future generations.
- Dr. Kasiki (KWS) concluded by saying it has been a long journey and thanked those who had the vision of saving Amboseli Ecosystem which is under threat due to a number of challenges such as loss of wildlife habitat, increasing agriculture among others. He appreciated the initiatives and efforts being made towards the conservation of the ecosystem for current and future generations. Dr. Kasiki stated that the Amboseli Ecosystem and stakeholders have shown leadership in this area. He considered the cost of not approving the SEA report as catastrophic compared to the likely benefits from this effort. He said that as KWS they have played their role, have been fully committed, and seriously involved in the whole process and would like it to see its logical conclusion. He promised that KWS will take up and finalize the gazettelement of the AEMP in the shortest time possible. Finally he thanked the consultants for their good job.
- Mr. Benson Leiyan (AET Manager) gave the vote of thanks. He thanked God for allowing the AEMP and SEA process to come that far. He thanked the Group Ranches for their cooperation which was 100%. He thanked KWS for allowing the AET to speak on behalf of the wildlife and resources. He thanked all the participating organizations and NEMA. He also commended the consultants for job well done and confirmed that AET has no regrets for contracting Habitat Planners for the assignment.



Mr. Leiyan giving a vote of thanks

The workshop ended at 16.12 pm with a prayer by Madam Agnes Kilowwa (CPT).

WORKSHOP PROGRAM

TIME	ACTIVITY
8.00-9.05 am	Registration of participants
9.05-10.40am	Opening session <ul style="list-style-type: none"> • Opening prayer by Madam Zainabu Salim • Remarks by <ul style="list-style-type: none"> ▪ Mr. Julius Cheptei – AD KWS ▪ Mr. Daniel Leturesh - Chairman AET ▪ Madam. Anne Kahihia – AD KWS ▪ Mr. Emmanuel Kanai - Chairman ATGRA ▪ Mr. Dunford Petlol – Regional Commissioner, Longido District Arusha ▪ Mr. Justus Metito - Sub County Administrator, Kajiado South ▪ Mr. Jeremiah Ole Kikua-Deputy County Commissioner - Kajiado County ▪ Dr. Noah Sitati - AWF ▪ Dr. Samuel Kasiki - Deputy Director-KWS ▪ Madam Margaret Njuki - NEMA ▪ Mr. Moses Murunya - Chief Officer Land, Environment and Natural Resources
10.40-11.05am	Tea Break
11.05-11.19am	Presentation of the evaluation findings for the Draft SEA report NEMA
11.19-11.27am	Reactions to NEMA's presentation
11.27-12.38pm	Presentation of the revised final SEA report by Dr. Francis Mwaura Habitat Planners.
12.38-1.04pm	Plenary Discussions
1.04-2.15pm	Lunch Break & Group Photo
2.15-3.45pm	Plenary Discussions
3.45-4.08pm	Closing Remarks by <ul style="list-style-type: none"> ○ Mr. Philip Wandera- Habitat Planners ○ Prof. John Kiringe-Habitat Planners/SFS ○ Dr. Samuel Kasiki-KWS ○ Mr. Benson Leyian-AET
4.08-4.12pm	Closing prayer by Madam Agnes Kilowwa - Women Representative Mbirikani
4.30 pm	Tea & Departure

STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) FOR THE AMBOSELI MANAGEMENT PLAN (2008-2018)

SEA REPORT VALIDATION WORKSHOP
WEDNESDAY 1st OCT, 2014, AT THE AMBOSELI SERENA LODGE

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GROUP PHOTO FOR THE VALIDATION AND ADOPTION WORKSHOP PARTICIPANTS



ⁱ The demand for charcoal trade can be replaced by sustainable alternative livelihoods such as bee-keeping

ⁱⁱ Charcoal burning is not a widespread challenge in the ecosystem

ⁱⁱⁱ The demand for charcoal trade can be replaced by sustainable alternative livelihoods such as bee-keeping

^{iv} Charcoal burning is not a widespread challenge in the ecosystem

^v The human-wildlife conflict can be reduced through provision of alternative watering points for people and livestock

^{vi} As much as the fences are meant to reduce human-wildlife conflicts, they encourage irrigation agriculture in and around wetlands

^{vii} Areas around water points get degraded by large numbers of livestock.

^{viii} The land around holding grounds get degraded by livestock

^{ix} Management failure of the slaughterhouse could frustrate the pastoralists

^x DFZ will displace wildlife e.g. the wildebeest for fear Bovine malignant catarrhal fever (BMCF) which is a fatal lymphoproliferative disease caused by a group of ruminant gamma herpes viruses including **Alcelaphine Herpes Virus 1** (AIHV-1) and **Ovine Herpes Virus 2** (OvHV-2). These viruses cause in apparent infection in their reservoir hosts, (sheep with OvHV-2 and wildebeest with AIHV-1) but are usually fatal in cattle and other ungulates such as antelope, and buffalo.

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