



Planning in the CCPF - © J. Bruner

Chapter 3

The management plan

10. MANAGEMENT STRATEGIES

Twenty one strategies were identified for the next 5 years management of the CCPF. In this chapter, the description, primary pressures addressed, underlying causes, assumptions, objectives, current actions, and proposed actions are described.

Strategy 1:	Wildlife trade reduction	
Description:	This strategy aims to reduce wildlife hunting in the CCPF by targeting the drivers of wildlife trade and strengthening law enforcement activities	
Primary pressure addressed:	Wildlife hunting and collection	Rank: Very high
Underlying cause:	International wildlife and pet trade; lack of education in local communities; financial incentives of hunting for wildlife trade outweigh disincentives	
Assumptions:	<ol style="list-style-type: none"> 1. Stopping or significantly reducing hunting in the CCPF for the wildlife trade will lead to maintenance or restoration of populations of trade-threatened conservation targets (e.g., bears) 2. Maintenance or restoration of populations of trade-threatened conservation targets will indicate similar trends in populations of other globally threatened species in the CCPF with similar wildlife trade threats (e.g., pangolins, otters, lorises, gibbons) 	
Objectives:	<ol style="list-style-type: none"> 1. By 2012, all trade-threatened species will continue to be present in all sites in the CCPF where they currently occur 	
Current actions:	<ul style="list-style-type: none"> ▪ Law enforcement and extension of the Forestry Law ▪ Wildlife confiscation and release (monitoring with research team) ▪ Awareness campaigns with local people (training on legislation, publications, etc) ▪ Engagement of local communities in patrolling and information provision ▪ National level awareness campaigns (posters, flyers, brochures) ▪ Wildlife trade intelligence network and market study (informants) ▪ Wildlife trader identification and listing in communes within the CCPF ▪ Monitoring the status of highly traded species ▪ Strengthening the prosecution system (rangers training) 	

- Proposed actions:**
- Strengthening law enforcement
 - Youth education and teacher training in local communities on wildlife importance (informal and formal education)
 - International wildlife trade network
 - Government public statement on wildlife trade, seeking political support and international funding

Strategy 2: Ensuring legal protection for freshwater species

Description: Through the implementation of this strategy, we seek to add additional legal protection to Asian Arowana (*Scleropagus formosus*), Siamese Crocodile (*Crocodylus siamensis*) and freshwater turtles, which are not currently listed on the pracas for the Cambodian Wildlife Law, in order to ensure that all threatened freshwater species within the CCPF are adequately protected

Primary pressure addressed: Wildlife hunting and collection **Rank:** Very high

Underlying cause: Insufficient legal protection for aquatic conservation targets (Asian Arowana, Siamese Crocodile, freshwater turtles) under the Fisheries Law

- Assumptions:**
- Turtles, Asian Arowana and Siamese Crocodile are not on the national list of Cambodia, so law enforcement to protect these species is difficult
 - The legal protection of threatened aquatic species under the Fisheries Law will provide a sufficient disincentive on the ground (e.g., through successful prosecution of offenders) to reduce hunting pressure and ensure that these species are effectively protected
 - These species will survive in the CCPF

- Objectives:**
1. CI-Cambodia will work with the Fisheries Administration to ensure that when the Fisheries Law pracas is passed, it effectively protects the country’s most threatened freshwater species such as Asian Arowana and Siamese Crocodiles.
 2. Rangers and local communities living in close proximity to wild populations of turtles, Siamese Crocodile and Asian Arowana know and understand what is stated in the Fisheries Law
 3. The law is used to prosecute offenders who hunt turtles, Asian Arowana and Siamese Crocodiles
 4. The CCPF has Action Plans for management of Siamese Crocodiles and Asian Arowana in Cambodia by 2010

- Current actions:**
- Providing information to the FiA on the status of aquatic threatened species in Cambodia
 - Local communities are protecting ponds and nesting areas of Asian Arowana and Siamese crocodiles respectively

- Proposed actions:**
- Assist the Fisheries Administration in listing all CR, EN, VU freshwater species for legal protection in Cambodia
 - Training and education for CCPF staff on the Fisheries Law and its application
 - Explaining the Fisheries Law and its meaning to local communities in and around the CCPF
 - Strengthening the engagement of local communities so they become the stewards of the Asian Arowana, the Siamese Crocodile and turtles

Strategy 3: Human-wildlife conflict mitigation

Description:	We aim to minimise human-wildlife conflict within the CCPF in order to reduce hunting pressure on threatened wildlife	
Primary pressure addressed:	Wildlife hunting and collection	Rank: Very high
Underlying cause:	Human-wildlife conflict, primarily over agricultural crops and other land use activities in the CCPF, which leads to hunting and snaring wildlife in conflict areas	
Assumptions:	Minimising human-wildlife conflict levels will reduce hunting pressure on wildlife	
Objectives:	1. CCPF managers will work with local communities in the CCPF to minimise human-wildlife conflict by 2010 in a manner that does not negatively impact food security or local livelihoods, while also ensuring conservation targets are conserved	
Current actions:	▪ None	
Proposed actions:	▪ Assess human-wildlife conflict in the CCPF, identify species which cause conflict, map areas where conflicts occur ▪ Develop a strategy to deal with this issue ▪ Scope the potential of implementing compensations systems that allow for local communities to maintain livelihood levels while respecting wildlife	

Strategy 4: Human population and conservation

Description:	Through this strategy we support low human population growth in the CCPF area to reduce pressure on the natural resources that would otherwise increase with increasing human density, such as wildlife hunting and habitat loss and alteration	
Primary pressures addressed:	Wildlife hunting and collection	Rank: Very high
	Habitat loss and alteration	Rank: Very high
Underlying cause:	Demographic issues (human population growth and immigration); lack of enforcement of land use agreements and regulations	
Assumptions:	▪ Increasing human population growth will put more pressure on and demand for the CCPF's natural resources and will put more species under threat ▪ By maintaining human population levels, we seek to reduce the demand on natural resources, including biodiversity	
Objectives:	▪ We will provide support to keep human population growth at the current level in five communes within the CCPF by 2010 ▪ We will understand the causes of immigration into the CCPF by 2010 ▪ We will ensure that PLUP agreements are formally recognized in the five communes by 2012	
Current actions:	▪ Family planning (reproductive planning) ▪ Conservation agreements that secure the respect of PLUP agreements and help control immigration	
Proposed actions:	▪ Expansion of family planning and health support ▪ An assessment of the causes of immigration to the forest frontier and the	

- development of mitigation actions
- Participatory Land Use Planning in all communities in the CCPF and buffer areas
- Strengthening of law enforcement to impede land-grabbing and maintain immigration levels agreed in the PLUP agreements

Strategy 5: Reducing dependency on subsistence hunting

Description: This strategy aims to reduce the dependence of local communities on subsistence hunting within the CCPF, by providing them with food security from domestic livestock while increasing the disincentive to illegally hunt

Primary pressures addressed: Wildlife hunting and collection **Rank:** Very high

Underlying cause: Demand for meat for local consumption; food insecurity; hunting traditions; poor animal husbandry; lack of understanding of the Forestry Law and its application to subsistence hunting

- Assumptions:**
- Subsistence hunting in the CCPF adversely affects conservation target species (i.e. rare species) either directly or by reducing the density of their prey, and this has a negative effect on conservation of these rare species
 - Local community members understand that it is illegal to hunt wildlife in the CCPF
 - Local community members are willing to stop hunting for local subsistence if they are given alternative sources of meat
 - Better animal husbandry techniques and increased productivity will reduce the demand for wild meat

Objectives:

1. By 2012, all local communities in the CCPF will have been given sufficient agricultural support (e.g., animal husbandry techniques) to ensure that they have enough domestic animals to meet their dietary needs
2. Because they have sufficient domestic animals for their needs and because they understand the Forestry Law, by 2012 no local communities in the CCPF will engage in subsistence hunting of wildlife

- Current actions:**
- Law enforcement with FA rangers
 - Law enforcement with community rangers
 - Livelihood alternatives (see Livelihood Improvement strategy)

- Proposed actions:**
- Strengthen and expand livelihood alternatives, with specific emphasis on improving animal husbandry techniques, to ensure that communities have sufficient domestic animals for their needs
 - Provide education on the Forestry Law and its application to subsistence hunting to all communities in the CCPF
 - Strengthen FA law enforcement efforts in core conservation areas and expand the community ranger program to all communities in the CCPF

Strategy 6: Livelihood improvement

Description: This strategy aims to improve the livelihoods of communities living in and around the CCPF, thereby reducing their need to engage in illegal activities that negatively affect the forests and biodiversity

Primary pressures Wildlife hunting and collection **Rank:** Very

addressed:	Habitat loss and degradation	Rank:	high Very high
Underlying cause:	People want more land for agricultural purposes; poor agricultural techniques; lack of education; insufficient agricultural land; insufficient economic opportunities		
Assumptions:	<ul style="list-style-type: none"> ▪ Local communities agree to engage in the CCPF Community Program ▪ It is possible to increase the current quantity and quality of agricultural products on existing communal land ▪ There is sufficient anthropogenically modified land within the boundaries of communes in the CCPF to support expanded livelihood activities without the need to clear more land ▪ Local communities have access to markets and can sell excess agricultural products to generate income ▪ If local communities receive livelihood support linked to conservation agreements, they will restrict their practices to communal land 		
Objectives:	1. By 2012 we aim to measurably increase the quantity and quality of livelihood activities for local communities, linked to the prevention of the clearance of protected forest within the CCPF		
Current actions:	<ul style="list-style-type: none"> ▪ Regeneration of disused rice-fields in communal land around the CCPF ▪ Buffalo and pig banks for local communities ▪ Livelihood alternatives ▪ Link to Buddhist Association environment program 		
Proposed actions:	<ul style="list-style-type: none"> ▪ Animal husbandry training and support (e.g., chickens, pigs, bees) ▪ Tree nurseries, cardamom plant nursery, medicinal plant nursery, education for local people in nursery management ▪ Expand rice-field rehabilitation program ▪ Wild Pig husbandry ▪ Development of non-traditional products that can be linked to ecotourism (e.g., handicrafts, wine, honey, etc.) ▪ Agricultural yield improvement program 		

Strategy 7:	Collaboration with prosecutors
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Description:	Through this strategy we seek to improve support and collaboration between CCPF managers and Provincial Prosecutors to make sure that offenders who break the Forestry Law are effectively prosecuted		
Primary pressures addressed:	Wildlife hunting and collection	Rank:	Very high
	Habitat loss and degradation	Rank:	Very high
	Illegal logging	Rank:	High
Underlying cause:	Weak implementation and decision-making		
Assumptions:	<ul style="list-style-type: none"> ▪ We assume that by improving the relationship with Provincial Prosecutors, offenders will serve their sentence for the crime for which they were found guilty ▪ If offenders are properly prosecuted, people will obey the law and this will reduce the number of illegal activities in the CCPF, such as illegal hunting, 		

illegal logging, land encroachment, wildlife trade

Objectives:

1. By 2012, forestry law implementation by CCPF management and prosecutors at the local level will have been strengthened
2. By 2012, we will reduce to numbers of incidences of wrong decision-making by prosecutors relating to offenders who break the forestry law

Current actions:

- Collaboration with the Pursat prosecutor to confiscate timber and punish offenders

Proposed actions:

- Improve relationships with provincial prosecutors
- Conduct ranger patrols with provincial prosecutors and other relevant institutions

Strategy 8: Awareness & education improvement

Description: This strategy aims to raise awareness of environmental issues and provide education on the Forestry Law to commune members within the CCPF, which will stop them from accidentally breaking the law or unintentionally damaging their natural environment

Primary pressures addressed: Wildlife hunting and collection

Rank: Very high

Habitat loss and degradation

Very high

Underlying cause: Poor education; lack of understanding of environmental issues and how it relates to them; poor understanding of the Forestry Law

Assumptions:

- Local communities will understand education programs that are aimed at raising their awareness of environmental and legal issues
- Awareness campaigns allows local communities to understand the law and abide by its regulations
- Local communities will adhere to the Forestry Law and follow the best environmental practices once they fully understand the concepts

Objectives:

1. By 2010, all communities within the CCPF will have received at least two environmental education and Forestry Law workshops and will show a clear understanding of the Forestry Law and its application
2. By 2010, all schools in the CCPF will have received at least two courses for their children focusing on environmental conservation issues

Current actions:

- Information and awareness program for local communities relating to endangered wildlife
- Video spots and television programs, national film festival, newspaper articles
- Education courses at some schools in the CCPF relating to conservation of specific species

Proposed actions:

- Expand the education program to include all schools in the CCPF, and cover a wide range of environmental issues
- Conduct education workshops on the Forestry Law and its application in relation to illegal forest encroachment and wildlife hunting, at all communities within the CCPF
- Hold environmental education workshops at local, regional and national levels to raise overall awareness
- Conduct an awareness program for all communities in the CCPF, focusing on main threats to biodiversity (e.g., wildlife hunting, habitat loss and degradation,

fires, accidental by-catch, human disturbance, illegal logging, over-fishing, disease transmission to/from wildlife, pollution) and how local communities can help reduce them

Strategy 9: Alternative traditional medicines

Description: This strategy aims to ensure that within all communes in the CCPF there will be alternatives for traditional medicines that use wildlife, and that the use of conservation-friendly traditional medicines is supported and leads to a reduction in hunting of threatened species

Primary pressures addressed: Wildlife hunting and collection **Rank:** Very high

Underlying causes: Traditional medicines; local beliefs; poverty; minimal access to modern medicines

Assumptions:

- Changing the types of medicines people use will protect threatened species that were targeted for medicinal purposes
- People will change from using traditional medicines that use wildlife to using alternative traditional or modern medicines
- It is possible to grow medicinal plants in nurseries
- Medicinal plants will grow in sacred forests

Objectives:

1. By the end of 2009, all communities within the CCPF will be supplied with alternatives to traditional medicines that use threatened species
2. By the end of 2010, no communes in the CCPF use traditional medicines containing threatened species, nor do they sell these species or medicines outside of the CCPF
3. By 2011, all interested communes within the CCPF are given support to grow medicinal plants in nurseries that they manage for their own use or for income generation, and a proportion of these medicinal plants are re-planted in communal sacred forests within the CCPF to ensure that wild populations of these plants survive

Current actions:

- Promotion of modern medicines (outreach program) and setting up of health care centers

Proposed actions:

- Assess the animals and plants currently used in traditional medicines, identify the diseases treated, then find alternative medicines
- Conduct awareness and education initiatives on the impacts and legislations relating to threatened species used in medicines (i.e. highlight medicinal species that are protected under the Forestry Law, e.g. Lorises, and the punishments for trading these species according to the law)
- Promote and supply alternative medicines (work with midwives)
- Support *ex-situ* production of native medicinal plants in local nurseries for local use and income generation
- Enrich the sacred forests within the CCPF by planting native medicinal plants that are grown in the local nurseries

Strategy 10: Reducing land encroachment

Description: This strategy aims to stop illegal land encroachment within the borders of the CCPF, thereby protecting the forests, the watershed, the wildlife, and the ecotourism value of the forests

Primary pressures addressed:	Habitat loss and degradation	Rank:	Very high
	Disease transmission to wildlife		Low
Underlying cause:	Local need for land for agriculture; high price of land; high price of food; numbers of people increasing; illegal land rights sold to investors; lack of clear boundary to the CCPF; speculation because of the presence of external factors/buyers (i.e. Chinese dam constructors)		
Assumptions:	<ul style="list-style-type: none"> ▪ Local communities currently have sufficient land for their needs ▪ People will respect forest boundaries when they are in place ▪ People understand the Forestry Law and its punishments ▪ Illegal sale of land rights will stop/ can be stopped with adequate law enforcement 		
Objectives:	<ol style="list-style-type: none"> 1. By 2009, all areas within the CCPF with current or likely future illegal land encroachment will have the adjacent Protected Forest boundary clearly demarcated, signposted, and frequently patrolled 2. By 1010, there will be no more incidences of illegal land encroachment within the borders of the CCPF 		
Current actions:	<ul style="list-style-type: none"> ▪ Boundary demarcation in key strategic areas ▪ Education and awareness program in some local communities within the CCPF to explain the Forestry Law and tell people where the boundaries of the CCPF are located ▪ Conservation agreements with local communities to make them adhere to PLUP agreements 		
Proposed actions:	<ul style="list-style-type: none"> ▪ Strengthening enforcement to prevent land encroachment in key areas ▪ Cooperation with the Ministry of Land Management and Planning to avoid issuing titles on protected forest lands ▪ Communication with provincial prosecutors ▪ Expanding education and awareness to all communities within the CCPF ▪ Expansion of boundary demarcation to all areas within the CCPF threatened by land encroachment ▪ Strengthening of agreements and incentives to stop land speculation and illegal selling 		

Strategy 11: Mitigating construction and operation impacts of dams

Description:	This strategy fully recognizes the need for hydroelectric dam development in Cambodia, and aims to mitigate the negative impacts of hydroelectric dam construction and operation on the CCPF watershed and biodiversity		
Primary pressures addressed:	Dam construction	Rank:	Very high
Underlying cause:	Economic development		
Assumptions:	<ul style="list-style-type: none"> ▪ Hydroelectric dams do not cause long-term damage to the conservation and watershed values of the CCPF when they are managed properly ▪ Hydroelectric dam development will leverage significant funding for mitigation of construction impacts and for management of the watershed ▪ It is possible to use this funding to mitigate and minimise negative impacts of 		

- hydroelectric dams on the environment
- The forested watershed above the dams will be maintained in an intact state to ensure high and continued productivity of the dams

Objectives:

1. Support and adhere to the hydroelectric dam EIA's to ensure that all environmental impacts to the CCPF are mitigated and minimised when the dams are built and during their operation
2. By 2009, conduct detailed analyses to assess the value of the watershed for maintenance of operationality of the hydroelectric dams
3. By 2010, document how the proposed hydroelectric dams can benefit the long-term conservation of the CCPF
4. By 2010, develop a mechanism through which the hydroelectric dams co-finance the management of the watershed, either directly to the CCPF or through investment in a Trust Fund for the Cardamoms Landscape

Current actions:

- An assessment of the positive and negative impacts of dams on the forest and biodiversity of the CCPF
- Advocacy and policy support

Proposed actions:

- Produce an assessment of the effects of dams on the conservation targets that will be most negatively affected (i.e., *Siamese Crocodile, Asian Arowana, Turtles*), and develop different scenarios and financial costs for mitigating these effects
- Support the development of best practice policies
- Use the results of existing Environmental and Social Impact Assessments to mitigate the effects of the dams on the CCPF

Strategy 12: Fire reduction and impact mitigation

Description: This strategy aims to reduce the impacts of fire on the forests and grasslands of the CCPF by preventing all illegal fires within the CCPF

Primary pressures addressed:	Habitat loss and degradation	Rank	Very high
	Fire		High

Underlying cause: Local communities burn grasslands to make hunting of wildlife easier; they clear and burn forest to claim land or to convert it to agriculture; they start accidental fires in the forest

Assumptions:

- Forest fires are harmful to the CCPF and its conservation values, as well as being a source of carbon emissions
- Local community members do not need to burn the forests
- Local community members understand that burning the forests is illegal under the Forestry Law and are willing to participate in fire management
- Burned areas of forest can regenerate
- Regenerating areas of forest can provide the FA with potential benefits through REDD projects

Objectives:

1. By 2010, all local communes in the CCPF have been informed that burning forests and grasslands in the CCPF is illegal
2. After they have been informed of the law, local community members do not start fires in the CCPF, and those that do are punished according to the Forestry Law
3. Burned areas in the CCPF are given assistance to regenerate by re-planting native trees and shrubs, and all of the areas that are replanted are clearly measured and

documented so that the FA could potentially benefit from the sale of this reforestation as carbon credits on the voluntary carbon market

- Current actions:**
- Law enforcement to prevent burning when it occurs
 - Extension of the MAFF Pracas on Fire Prevention
- Proposed actions:**
- Education campaigns in local communities on fire prevention and management
 - Intensified enforcement in targeted areas during burning seasons
 - Include fire prevention in Community Conservation Agreements
 - Plant local tree species in degraded areas to assist natural regeneration
 - Measure and document all restored areas and seek ways to fund these activities through the Carbon market

Strategy 13: Reducing by-catch of aquatic conservation targets

Description: This strategy aims to reduce accidental by-catch of threatened species during legal fishing activities in and around the CCPF, ensuring that conservation targets have effective long-term protection in key areas

Primary pressures addressed: Fishing by-catch **Rank:** High

Underlying cause: Accidental by-catch of threatened species in fishing equipment; fishing in core conservation areas; using harmful fishing methods

- Assumptions:**
- Aquatic conservation targets such as Siamese crocodile, Asian Arowana, and Turtles are negatively affected by accidental by-catch
 - It is possible to change people’s attitudes and fishing methods
 - It is possible to prevent fishing in core conservation areas
 - Altering people’s behaviour to provide positive impacts for conservation will not negatively affect their livelihoods or compromise food security

- Objectives:**
1. By 2009, core areas for the conservation of all aquatic conservation targets will be identified, and the extent of the impacts of by-catch will have been assessed
 2. By 2009, conservation agreements will be implemented to reduce these impacts, e.g., by preventing fishing in core areas or providing alternatives to harmful fishing methods
 3. By 2010, core wetlands will be managed for the conservation of endangered aquatic species
 4. By 2012, conservation target species show clear signs of recovery in those areas where threats have been reduced

- Current actions:**
- Conservation agreements for the protection of Asian Arowana and Siamese Crocodile in two sites
 - No-fishing agreements and patrols by community rangers at core wetlands during the breeding season, when by-catch threats are greatest

- Proposed actions:**
- Conduct a study to identify core areas for conservation of aquatic conservation species, and the threats to these species
 - Improve enforcement (patrolling) during the breeding season of target species, with rangers and a monitoring team
 - Extend Crocodile Warden program to other localities
 - Extend conservation agreements to target by-catch in Veal Veng

Strategy 14: Reducing human disturbance

Description:	This strategy aims to reduce disturbance to threatened species by people during legal daily activities in the CCPF, where that disturbance threatens species with local extinction, e.g., disturbance to Siamese Crocodiles during the breeding season by people grazing cattle in the nesting area	
Primary pressures addressed:	Human disturbance	Rank: High
Underlying cause:	Increased human contact and proximity to susceptible species (e.g., <i>Siamese crocodile</i>); people entering the forests for NTFP collection; clearance of grasslands; grazing of cattle in core areas; agricultural expansion	
Assumptions:	<ul style="list-style-type: none">▪ Human disturbance threatens rare species with local extinction▪ It is possible to mitigate these effects without reducing people's livelihoods	
Objectives:	<ol style="list-style-type: none">1. We will identify and effectively mitigate all cases of human disturbance to conservation targets in the CCPF by 2012	
Current actions:	<ul style="list-style-type: none">▪ Law enforcement to reduce activities that disturb threatened wildlife in some areas▪ Identification of species and areas most affected by human disturbance	
Proposed actions:	<ul style="list-style-type: none">▪ Extend CSP agreement to O'Som commune to protect Siamese Crocodiles from disturbance by grazing cattle▪ Prevent other disturbances through education, awareness and enforcement, while providing alternative activities to local people so that their livelihoods and food security concerns are addressed	

Strategy 15: Illegal logging control

Description:	This strategy aims to prevent illegal logging within the CCPF, thereby reducing the threats to rare high-value timber tree species	
Primary pressures addressed:	Illegal logging of high value tree species	Rank: High
Underlying cause:	Poverty; high value for luxury timber; middlemen providing funding to local communities to illegally cut and transport timber	
Assumptions:	<ul style="list-style-type: none">▪ People understand the Forestry Law and cooperate with the FA and other stakeholders to protect the forest in the CCPF▪ Forest crime will decrease over time due to law enforcement and disincentives provided by prosecution under the Forestry Law▪ All levels of local authority actively participate in forest protection▪ High value timber tree species can regenerate in the CCPF	
Objectives:	<ol style="list-style-type: none">1. By 2012, the number of incidences of illegal logging and trading in the CCPF have will have decreased2. By 2013, all high value timber tree species will still occur in the CCPF in areas where they are currently known to occur, and there are signs of regeneration of these species in areas where illegal logging took place	
Current actions:	<ul style="list-style-type: none">▪ Law enforcement (patrols, confiscations, arrests)	
Proposed actions:	<ul style="list-style-type: none">▪ Strengthening law enforcement by increasing the number of rangers and patrols in areas with high levels of illegal logging▪ Seek additional support and coordination from local authorities, local foresters, and local police	

- Set up an intelligence network
- Demarcate the CCPF boundary to aid prosecution of illegal logging

Strategy 16: Strengthening research and monitoring in the CCPF

Description:	Ensure that research and monitoring information are sufficient to allow effective management of the CCPF	
Primary pressures addressed:	Insufficient biological knowledge	Rank: High
Underlying cause:	Insufficient funding for research; paucity of historical biological information for Cambodia; current lack of research capacity	
Assumptions:	<ul style="list-style-type: none"> ▪ Research and monitoring information will be used for effective adaptive management of the CCPF 	
Objectives:	<ol style="list-style-type: none"> 1. By 2010 the CCPF will be a centre for national and international research, with sufficient biological information on conservation targets to allow effective management of the site. 	
Current actions:	<p><i>Siamese crocodile</i></p> <ul style="list-style-type: none"> ▪ Research on ecology, abundance, breeding behavior, habitat use ▪ Camera trapping for presence, abundance, locations and movements ▪ Direct monitoring of Siamese Crocodile by the FA ▪ Assessment of feasibility of <i>ex situ</i> nest protection and headstarting <p><i>Bears</i></p> <ul style="list-style-type: none"> ▪ Species presence with camera trapping ▪ Bear monitoring using track and sign surveys by the FA ▪ Awareness campaign with primary schools in the CCPF ▪ National awareness program through TV programs and newspaper articles <p><i>Turtles & Tortoises</i></p> <ul style="list-style-type: none"> ▪ Detailed species inventory in the CCPF ▪ Mapping the distribution of turtle and tortoise species in CCPF ▪ Awareness programs on turtles conservation with schools in the CCPF ▪ Trained FA rangers who identify confiscated turtles and know where to release them ▪ Radio-tracking of Impressed Tortoises <p><i>Large carnivores</i></p> <ul style="list-style-type: none"> ▪ Species presence through camera trapping <p><i>Galliforms</i></p> <ul style="list-style-type: none"> ▪ Species presence through camera trapping <p><i>Elephants</i></p> <ul style="list-style-type: none"> ▪ FA work on elephants: dung analysis for censuses, distribution, etc 	
Proposed actions:	<p><i>Bears</i></p> <ul style="list-style-type: none"> ▪ Release and monitor captive bears from Phnom Thmau Rescue Centre into the CCPF <p><i>Large carnivores</i></p> <p>Systematic monitoring of these species</p>	

High value timber species and Aloewood

- Assessment of distribution and conservation status of high value timber species and Aloewood in different habitats throughout the CCPF
- Assessment of the potential for the FA to grow Aloewood in nurseries and generate profits from the extraction of essential oils from these cultivated trees, with some replanting of the species back into the CCPF

Galliforms

- Monitoring through vocalization as part of the CCPF biological monitoring program
- Explore the potential of genetic studies of Red Jungle Fowl
- Assessment of conservation status, distribution, and abundance of the Green Peafowl and Chestnut-headed Partridge in the CCPF

High altitude wetlands

- Biological and pressure assessments of the wetlands and development of sustainable management strategy
- Exploration trips to the least known wetlands within the CCPF
- Assess White-winged Duck populations in high altitude wetlands

Watershed for Southwest Cambodia

- Develop and implement a monitoring program based on forest cover change (satellite and aerial images) and water quantity and quality
- Quantify the value of the ecosystem services provided by the CCPF watershed

Estimating Carbon Stocks and Carbon flows

- Conduct a carbon inventory of the above ground and below ground biomass using IPCC Tier 1 and 2 methodology
- Estimate carbon emissions from past deforestation and logging activities to establish historical baselines
- Model carbon budgets (emissions + sequestration) from potential future scenarios, including: intensive logging, reduced impact logging, cessation of logging + regrowth, deforestation on access roads to hydro facilities, etc.

Cardamom plant

- Assess the status, distribution and threats to the cardamom plant
- Develop a conservation strategy for the cardamom plant and associated lowland evergreen forests
- Look into the potential for setting up nurseries to grow Cardamom for the extraction and sale of Cardamom Oil

Orchids

- Conduct an inventory and assess the status, distribution and threats to orchids in the CCPF
- Review their status as conservation targets and, if they trigger that status, develop a strategy for orchid conservation and management in the CCPF
- Look into the potential of *ex situ* rearing of orchids from the CCPF for sale and reintroduction

Strategy 17: Reducing over-fishing

Description: This strategy aims to reduce environmental degradation in core conservation areas due to over-fishing

Primary pressure addressed: Over-fishing

Rank: High

Underlying cause: Subsistence fishing; insufficient regulations or restrictions on fishing in wetlands within the CCPF

- Assumptions:**
- Over-fishing causes serious degradation of the freshwater environment by dramatically altering the aquatic food chain
 - Over-fishing negatively affects conservation of threatened species (e.g., Siamese Crocodile; otters; large waterbirds) that depend on wetlands and aquatic food sources such as fish
 - Over-fishing can be controlled, reduced and managed

- Objectives:**
1. By 2009, core areas will have been identified for the conservation of all aquatic conservation targets, and the extent of impacts of over-fishing in these areas will have been assessed
 2. By 2009, conservation agreements will have been implemented to reduce these impacts, e.g., by demarcating no-fish zones / fish sanctuaries in high priority wetlands such as Veal Veng
 3. By 2011, local legislation is in place to protect fish sanctuaries / no-fish zones in at least two wetlands in the CCPF
 4. By 2012, the highest priority wetlands within the CCPF (i.e. Veal Veng and Veal Sre Prang) will be managed for conservation

Current actions:

- No-fishing agreements in some wetlands at selected times of the year

- Proposed actions:**
- Assessment of fishing and its conservation implications to the CCPF
 - Implement livelihood alternatives in communities near priority wetlands to reduce their dependency on fishing
 - Include development of fish sanctuaries / no-fish zones in future conservation agreements
 - Provide education and awareness to communities
 - Inter-institutional coordination (local police, etc.) to improve control of over-fishing

Strategy 18: Reducing contact between domestic dogs and wildlife

Description: This strategy aims to minimise contact between domestic dogs and wildlife in the CCPF in order to reduce hunting pressure and disease transmission

Primary pressure addressed: Wildlife hunting and collection, Diseases

Rank: Low

Underlying cause: Hunting with dogs

- Assumptions:**
- Domestic dogs spread diseases to endangered Asian Wild Dogs (Dhole)
 - Domestic dogs help hunters to find and catch protected threatened wildlife such as tortoises and pangolins
 - Local community members do not need to take domestic dogs when they enter the forest for legitimate purposes e.g., NTFP collection

- Objectives:**
1. By 2010, the Forestry Administration passes local legislation that prevents anyone from taking domestic dogs into the CCPF, and informs all communes in the CCPF of the implications of this legislation
 2. Local communities stop taking domestic dogs into the CCPF when the legislation is in place, thereby reducing hunting pressure on wildlife and potential disease transmission to wild dogs
- Current actions:**
- Dogs are currently prevented from entering the CCPF as part of the FA’s on-going management activities
- Proposed actions:**
- The FA will pass local legislation making it illegal to take domestic dogs into the CCPF
 - Local communities will then be informed that it is illegal to take dogs into the forest
 - Enforcement activities ensure compliance with the ‘no dogs’ policy

Strategy 19: Land-mine strategy

Description: This strategy aims to support the removal of land-mines from affected areas in the CCPF

Primary pressure addressed: Land mines **Rank:**  Low

Underlying cause: Large numbers of land-mines and other unexploded ordnances remain throughout Cambodia after the civil war with the Khmer Rouge, necessitating many years of intensive efforts and large-scale funding to de-mine affected areas

- Assumptions:**
- Landmines have a negative impact on the CCPF and its conservation targets
 - It is possible to remove the land-mines from the CCPF
 - It is possible to control in-migration after minefields have been cleared

- Objectives:**
1. By 2013, all known minefields in the CCPF have been de-mined by CMAC, MAG or other de-mining companies
 2. De-mined areas are maintained by the Forestry Administration to prevent in-migration into these areas

Current actions:

- Avoid patrols in areas known to contain land-mines

Proposed actions:

- Coordinate with CMAC, MAG and JMAC to prospect de-mining
- Work with local authorities to prevent migration of people into newly de-mined areas

Strategy 20: Mining impact reduction

Description: This strategy aims to ensure that mining in the CCPF is incorporated into management and conservation plans for the site

Primary pressure addressed: Mining **Rank:**  Low

Underlying cause: Need for economic development

- Assumptions:**
- Mining in the CCPF will be carefully managed in partnership with the FA
 - Mining does not cause long-term damage to the conservation and watershed

- values of an area when it is managed properly
- Mined areas will be restored to their natural state

Objectives:

1. Ensure that all illegal mining in the CCPF is prevented
2. Ensure that the environmental impacts of legal mining in the CCPF are mitigated and minimised
3. Ensure that mined areas are restored to their natural state

Current actions: ▪ Law enforcement to prevent illegal mining

Proposed actions:

- Coordinate with the relevant ministries to share mining plans so that they can be incorporated into site management plans
- Develop a strategy to mitigate and minimise the impacts of mining on conservation targets, and to restore mined areas

Strategy 21: Ecotourism

Description: This strategy aims to ensure that ecotourism in the CCPF is incorporated into management and conservation plans for the site

Primary pressures addressed:	Wildlife hunting and collection	Rank:	Very high
	Habitat loss and degradation		

Underlying cause: Insufficient economic opportunities

Assumptions:

- Ecotourism will not have significant negative impacts on the conservation targets in the CCPF
- Local community members are willing to stop clearing forest and hunting if they are given alternative sources of income through tourism

Objectives:

1. CCPF managers will work with local communities in the CCPF to ensure that the development of ecotourism will benefit their livelihoods without leading to loss of cultural and social values, while also ensuring that conservation targets are conserved

Current actions:

- Preliminary assessments of the opportunities for ecotourism in the CCPF
- Value chain assessment

Proposed actions: ▪ Develop a strategy to deal with this issue

11. MONITORING AND EVALUATION INDICATORS

11.1 Interventions Monitoring

The strategies outlined in this management plan will be assessed and monitored to ensure that the management interventions are successful, and that they are adapted if they are not effective or efficient. For each strategy and its associated objectives, one or more indicators have been identified (see below). These indicators are simple, measurable, achievable, repeatable, and will clearly indicate the effectiveness of the strategy.

Strategy 1: Wildlife trade reduction

Objectives: 1. By 2012, all trade-threatened species will continue to be present in all sites in the CCPF where they currently occur

Indicators: 1. Bears, turtles and tortoises, Asian Arowana and Asian Elephants will continue to be present in all sites in the CCPF where they currently occur

Strategy 2: Ensuring legal protection for freshwater species

Objectives:

1. CI-Cambodia will work with the Fisheries Administration to ensure that when the Fisheries Law is passed, it protects the country's most threatened freshwater species such as Asian Arowana and Siamese Crocodiles
2. CI-Cambodia will conduct formal training in the Fisheries Law and its meaning to all CCPF rangers and all commune committees in the CCPF within one year of the law being passed, with additional emphasis on communities living in close proximity to wild populations of turtles, Siamese Crocodiles and Asian Arowana
3. The FA rangers will use this law to prosecute offenders who hunt turtles, Asian Arowana and Siamese Crocodiles
4. CI-Cambodia will produce an Action Plan for conservation of the Asian Arowana in Cambodia by 2010

Indicators:

1. The Fisheries Law will be passed by the end of 2010
2. The Fisheries Law will adequately list Asian Arowana, Siamese Crocodiles and all globally threatened turtles
3. Five training workshops (sessions) will be conducted in communities which impact core areas for Asian Arowana and Siamese Crocodile in the CCPF over five years (at least 100 people receive information on new laws and know the content and extent of the Fisheries Law)
4. Offenders who break the Fisheries Law will be prosecuted
5. Asian Arowana, Siamese Crocodiles and freshwater turtles will continue to be present in all sites in the CCPF where they are currently known to occur

Strategy 3: Human-wildlife conflict mitigation

Objectives: 1. CCPF managers will work with local communities in the CCPF to minimise human-wildlife conflict by 2010 in a manner that does not negatively impact food security or local livelihoods, while also ensuring conservation targets are conserved

Indicators:

1. By 2010 the Forestry Administration, CI-Cambodia and local communities will have developed and implemented a strategy that effectively addresses wildlife conflict within the CCPF
2. By 2015 the incidence of human-wildlife conflicts in agricultural lands has decreased by 75%

Strategy 4: Human population and conservation

Objectives:

- We will provide support to keep human population growth at the current level in five communes within the CCPF by 2010
- We will understand the causes of immigration into the CCPF by 2010

- We will ensure that PLUP agreements are formally recognized in five communes by 2012

Indicators:

- A report on the causes of immigration to CCPF published by end of 2010
- Five communities receive formal recognition of PLUP by 2012
- Annual reports showing human population growth at low rates until 2012
- Population growth decreases to 1.5% per year by 2015

Strategy 5: Reducing dependency on subsistence hunting

Objectives:

1. By 2012, all local communities in the CCPF will have been given sufficient agricultural support (e.g., animal husbandry techniques) to ensure that they have enough domestic animals for their dietary needs
2. Because they have sufficient domestic animals for their needs and because they understand the Forestry Law, no local communities in the CCPF will engage in subsistence hunting of wildlife by 2012

Indicators:

1. By 2012, all communities in the CCPF have sufficient domestic animals for their dietary needs
2. By 2012, no community in the CCPF with sufficient domestic animals engage in subsistence hunting

Strategy 6: Livelihood improvement

Objectives:

1. By 2012 we aim to measurably increase the quantity and quality of livelihood goods (e.g., agricultural products, nursery seedlings, handicrafts) produced by local communities while preventing the clearance of protected forest within the CCPF

Indicators:

1. All local communities within the CCPF see an annual increase in their average earnings from legal livelihood activities in their communal lands
2. Agricultural productivity is improved, with measurable increases in product quality and quantity, ensuring food security and income generation for the communes living within the CCPF
3. There is no land clearance within the CCPF by local communities for agricultural or other livelihood purposes
4. There is no subsistence hunting within the CCPF by local communities

Strategy 7: Collaboration with prosecutors

Objectives:

1. By 2012, Forestry Law implementation by CCPF management and prosecutors at the local level will have been strengthened
2. By 2012, we will reduce to numbers of incidences of wrong decision-making by prosecutors relating to offenders who break the Forestry Law

Indicators:

- At least 20% of offenders who violate the Forestry Law in the CCPF are prosecuted and serve their sentence

Strategy 8: Awareness & education improvement

Objectives:

1. By 2010, all communities within the CCPF will have received at least two environmental education and Forestry Law workshops and will show a clear

understanding of the Forestry Law and its application

2. By 2010, all schools in the CCPF will have received at least two courses for their children focusing on environmental conservation issues

Indicators:

1. All schools in the CCPF receive at least two environmental education courses by 2010 and the children clearly understand the subject

2. At least two environmental education and Forestry Law workshops are held at every community in the CCPF by 2010 and the community members show a clear understanding of the issues discussed

3. Local community members do not unknowingly break the Forestry Law in the CCPF after the education workshops have been conducted

Strategy 9:

Alternative traditional medicines

Objectives:

1. By the end of 2009, all communities within the CCPF will be supplied with alternatives to traditional medicines that use threatened species

2. By the end of 2010, no communes in the CCPF use traditional medicines containing threatened species, nor do they sell these species or medicines outside of the CCPF

3. By 2011, all interested communes within the CCPF are given support to grow medicinal plants in nurseries that they manage for their own use or for income generation, and a proportion of these medicinal plants are re-planted in communal sacred forests within the CCPF to ensure that wild populations of these plants survive

Indicators:

1. All communes within the CCPF stop using threatened species in traditional medicines by 2010 and local practitioners and midwives advocate alternative medicines

2. Threatened species used for medicinal purposes are not traded from the CCPF

3. All interested communes within the CCPF develop productive nurseries for native medicinal plants by 2010

4. Native medicinal plants are planted in communal sacred forests within the CCPF by 2011

5. Threatened species that were used for traditional medicines continue to be found in the wild within the CCPF

Strategy 10:

Reducing land encroachment

Objectives:

1. By 2009, all areas within the CCPF with current or likely future illegal land encroachment will have the adjacent Protected Forest boundary clearly demarcated, signposted, and frequently patrolled

2. By 2010, there will be no more incidences of illegal land encroachment within the borders of the CCPF

Indicators:

1. The CCPF boundary is clearly demarcated and signposted in all areas with current incidences of land encroachment

2. There are no more incidences of illegal land encroachment within the borders of the CCPF

Strategy 11:

Mitigating construction and operation impacts of dams

Objectives:

1. Support and adhere to the hydroelectric dam EIA's to ensure that all environmental impacts to the CCPF are mitigated and minimised when the dams are built and during

their operation

2. By 2009, conduct detailed analyses to assess the value of the watershed for maintenance of operationality of the hydroelectric dams
3. By 2010, document how the proposed hydroelectric dams can benefit the long-term conservation of the CCPF
4. By 2010, develop a mechanism through which the hydroelectric dams co-finance the management of the watershed, either directly to the CCPF or through investment in a Trust Fund for the Cardamoms Landscape

- Indicators:**
1. All plans for hydroelectric dams that directly affect the CCPF are coordinated with the FA for incorporation into CCPF management
 2. All negative environmental impacts from the construction and operation of the dams are mitigated to the best extent possible
 3. The management of dam watersheds that are within the CCPF is financially supported by the hydroelectric dams

Strategy 12: Fire reduction and impact mitigation

- Objectives:**
1. By 2010, all local communes in the CCPF have been informed that burning forests and grasslands in the CCPF is illegal
 2. After they have been informed of the law, local community members do not start fires in the CCPF, and those that do are punished according to the Forestry Law
 3. Burned areas in the CCPF are given assistance to regenerate by re-planting with native trees and shrubs, and all of the areas that are replanted are clearly measured and documented so that the FA could potentially benefit from the sale of these reforestation carbon credits on the voluntary carbon market

- Indicators:**
1. When the next MAFF Pracas is produced, it includes Fire Prevention
 2. With one year of the MAFF Pracas being produced, all local communities in the CCPF will be educated in the Fire Prevention component of the Forestry Law
 3. After the legislation has been passed and the communities have been educated, rangers patrolling the CCPF find that people do not start fires
 4. By 2012, all areas that had been previously cleared by fire in the CCPF are regenerating

Strategy 13: Reducing by-catch of aquatic conservation targets

- Objectives:**
1. By 2009, core areas will be identified for the conservation of all aquatic conservation targets, and the extent of the impacts of by-catch will have been assessed
 2. By 2009, conservation agreements will be implemented to reduce these impacts, e.g., by preventing fishing in core areas or providing alternatives to harmful fishing methods
 3. By 2010, core wetlands will be managed for the conservation of endangered aquatic species
 4. By 2012, conservation target species show clear signs of recovery in those areas where threats have been reduced

- Indicators:**
1. The management of all core wetlands in the CCPF will include a conservation component for threatened species
 2. Communities will benefit through incentives to offset negative impacts of changed fishing practices
 3. Asian Arowana, Siamese Crocodiles and freshwater turtles will continue to be present in all sites in the CCPF where they are currently known to occur

Strategy 14: Reducing human disturbance

- Objectives:** 1. We will identify and effectively mitigate all cases of human disturbance to conservation targets in the CCPF by 2012
- Indicators:** 1. Communities benefit through alternative livelihood activities to offset reduced disturbance
2. Threatened species that are affected by human disturbance (with emphasis on Siamese Crocodile), will continue to be present in all sites in the CCPF where they are currently known to occur

Strategy 15: Illegal logging control

- Objectives:** 1. By 2012, the number of incidences of illegal logging and trading in the CCPF will have decreased
2. By 2013, all high value timber tree species will still occur in the CCPF in areas where they are currently known to occur, and there are signs of regeneration of these species in areas where illegal logging took place
- Indicators:** 1. CCPF rangers include areas with high levels of illegal logging in their patrol plans, and patrol these areas frequently
2. All high value timber tree species will continue to occur in the CCPF in areas where they currently occur, and there are signs of regeneration of these species where illegal logging took place
3. The numbers of incidences of illegal logging, and the area of forest that is illegally logged, decreases annually

Strategy 16: Strengthening research and monitoring in the CCPF

- Objectives:** 1. By 2010 the CCPF will be a centre for national and international research, with sufficient biological information on conservation targets to allow effective management of the site
- Indicators:** 1. By 2012 the CCPF will be an internationally recognized research and monitoring site for universities and institutions around the world
2. The CCPF Management Team will use biological research and monitoring data for adaptive management of the site

Strategy 17: Reducing over-fishing

- Objectives:** 1. By 2009, core areas will have been identified for the conservation of all aquatic conservation targets, and the extent of impacts of over-fishing in these areas will have been assessed
2. By 2009, conservation agreements will have been implemented to reduce these impacts, e.g., by demarcating no-fish zones / fish sanctuaries in high priority wetlands such as Veal Veng
3. By 2011, local legislation is in place to protect fish sanctuaries / no-fish zones in at least two wetlands in the CCPF
4. By 2012, the highest priority wetlands within the CCPF (i.e. Veal Veng and Veal Sre Prang) will be managed for conservation

- Indicators:**
1. At least two wetlands in the CCPF will contain fish sanctuaries / no-fish zones by 2012
 2. Communities will benefit through incentives to offset reduced fishing
 3. Asian Arowana, Siamese Crocodiles, freshwater turtles and other threatened wetland-dependant species will continue to be present in all sites in the CCPF where they are currently known to occur

Strategy 18: Reducing contact between domestic dogs and wildlife

- Objectives:**
1. By 2010, the Forestry Administration passes local legislation that prevents anyone from taking domestic dogs into the CCPF, and informs all communes in the CCPF of the implications of this legislation
 2. Local communities stop taking domestic dogs into the CCPF when the legislation is in place, thereby reducing hunting pressure on wildlife and potential disease transmission to wild dogs

- Indicators:**
1. Local legislation passed by the Forestry Administration that bans domestic dogs from the CCPF
 2. Rangers patrolling the CCPF after the legislation has been passed find that people do not take domestic dogs into the forest
 3. Wildlife that was previously threatened by dogs will continue to be present in all sites in the CCPF where they are currently known to occur

Strategy 19: Land-mine strategy

- Objectives:**
1. By 2013, all known minefields in the CCPF have been de-mined by CMAC, MAG or other de-mining companies
 2. De-mined areas are maintained by the Forestry Administration to prevent in-migration into these areas

- Indicators:**
1. All known minefields in the CCPF are cleared of land-mines by 2013
 2. There is no in-migration of people into the cleared minefields in the CCPF

Strategy 20: Mining impact reduction

- Objectives:**
1. Ensure that all illegal mining in the CCPF is prevented
 2. Ensure that the environmental impacts of legal mining in the CCPF are mitigated and minimised
 3. Ensure that mined areas are restored to their natural state

- Indicators:**
1. Plans for mines are coordinated with the FA for incorporation into CCPF management plans
 2. All mines built in the CCPF provide maximum economic returns with minimum environmental impact
 3. All mined areas are restored to their natural state

Strategy 21: Ecotourism

- Objectives:** 1. CCPF managers will work with local communities in the CCPF to ensure that the development of ecotourism will benefit their livelihoods without leading to loss of cultural and social values, while also ensuring that conservation targets are conserved
- Indicators:** 1. By 2010 the Forestry Administration, CI-Cambodia and local communities will have developed and implemented a strategy that effectively addresses ecotourism within the CCPF

11.1 Management Information System (MIST)

Monitoring and management of the CCPF will use MIST for effective dissemination of management information for decision-making. The Management Information System has been selected for use throughout most protected areas in Cambodia. It will provide CCPF management with frequent updates on the effectiveness of program activities, which will aid decision-making and the development of annual workplans. It consists of a user-friendly computer program and associated data collection processes. Information collected by rangers, community rangers, and community monitoring teams will be used to calculate indices to monitor trends in the populations of selected wildlife, as well as selected illegal activities. This will quantitatively show the effectiveness of patrols and will aid patrol planning.

Direct monitoring for conservation target species will also be conducted on an annual basis. The existing research and monitoring data provides a baseline some initial monitoring information for bears, Asian Arowana, turtles and tortoises, Siamese Crocodiles, large carnivores, Asian Elephant, Aloewood, and galliforms. A biological monitoring team currently measures the presence and trends in the status of these species using a variety of methods, such as systematic camera-trapping, track and sign transects, and listening posts.

Conservation agreements are closely monitored using methodologies set down prior to the signing of the agreement. Examples of monitoring activities include community patrols, snare removal, monitoring of land encroachment, and species-specific monitoring for Asian Arowana and Siamese Crocodiles, as well as social monitoring to ensure the agreements are understood, that they are beneficial and supported by the local communities, and that they provide social benefits that reflect the conservation benefits they generate.

12. TIMETABLE

Strategy Actions	YEAR 1				YEAR 2				YEAR 3				YEAR 4				YEAR 5			
	Q1	Q2	Q3	Q4																
1. Wildlife trade reduction																				
• Strengthening law enforcement																				
• Youth education and teacher training																				
• International wildlife trade network																				
• Government public statement																				
2. Legal protection for freshwater spp.																				
• Assist the Fisheries Administration																				
• Training and education for staff																				
• Communication Fisheries Law																				
3. Human-wildlife conflict mitigation																				
• Assess human-wildlife conflict																				
• Develop a strategy for this issue																				
4. Human population & conservation																				
• Family planning and health support																				
• Assessment of immigration causes																				
• Participatory Land Use Planning																				
5. Reducing dependency on hunting																				
• Strengthen livelihood alternatives																				
• Provide education on the Forestry Law																				
• Strengthen FA law enforcement efforts																				
6. Livelihood improvement																				
• Animal husbandry training and support																				
• Tree nurseries																				
• Expand rice-field rehabilitation																				
• Wild pig husbandry																				
• Non-traditional products																				
• Agricultural yield improvement																				
7. Collaboration with prosecutors																				
• Relationships with prosecutors																				
• Patrols with provincial prosecutors																				
8. Awareness & education																				

Strategy	Actions	YEAR 1				YEAR 2				YEAR 3				YEAR 4				YEAR 5			
		Q1	Q2	Q3	Q4																
	• Expand the education program																				
	• Education workshops on laws																				
	• Environmental education workshops																				
	9. Alternative traditional medicines																				
	• Assess uses of traditional medicines																				
	• Conduct awareness and education																				
	• Promote and supply alternatives																				
	• Support <i>ex-situ</i> production																				
	10. Reducing land encroachment																				
	• Enforcement of encroachment																				
	• Cooperation with the MLMP																				
	• Comm. w/ provincial prosecutors																				
	• Education and awareness																				
	• Boundary demarcation																				
	11. Mitigating impacts of dams																				
	• Assessment of the effects of dams																				
	• Support best practice policies																				
	12. Fire reduction and mitigation																				
	• Education campaigns																				
	• Intensified enforcement																				
	• Fire prevention in agreements																				
	• Native trees in degraded areas																				
	• Restored areas to carbon market																				
	13. Reduce by-catch of aquatic targets																				
	• Identify core areas for conservation																				
	• Improve enforcement (patrolling)																				
	• Extend Crocodile Warden program																				
	• Conservation agreements on by-catch																				
	14. Reducing human disturbance																				
	• Extend agreement to O'Som																				
	• Prevent disturbances; education etc																				
	15. Illegal logging control																				

Strategy Actions		YEAR 1				YEAR 2				YEAR 3				YEAR 4				YEAR 5			
		Q1	Q2	Q3	Q4																
• Strengthening law enforcement																					
• Coordination w/ local authorities																					
• Set up an intelligence network																					
• Demarcate the CCPF boundary																					
16. Research and monitoring																					
• Release and monitor captive bears																					
• Systematic monitoring of bears																					
• Study distribution and conservation status of high value plant species																					
• Potential to grow Aloewood																					
• Monitoring through vocalization of Galliforms																					
• Explore the potential of genetic studies of Red Jungle Fowl																					
• Conservation status, distribution, and abundance of Green Peafowl and Chestnut-headed Partridge																					
• Biological and pressure assessments of wetlands and development of sustainable management strategy																					
• Exploration trips to the least known wetlands																					
• Assess White-winged Duck populations																					
• Monitoring program forest cover change and water quantity and quality																					
• Quantify the value of the ecosystem services																					
• Assess the value of the watershed forests and monitor the deforestation rate for REDD																					
• Assess the status, distribution and threats to the cardamom plant																					
• Develop a conservation strategy for the cardamom plant																					
• Potential nurseries to grow Cardamom																					

Strategy Actions		YEAR 1				YEAR 2				YEAR 3				YEAR 4				YEAR 5			
		Q1	Q2	Q3	Q4																
for the extraction and sale of Cardamom Oil																					
• Inventory and assess status, distribution, and threats to orchids																					
• Strategy for orchid conservation and management																					
17. Reducing over-fishing																					
• Assess impacts of fishing																					
• Implement livelihood alternatives																					
• Fish sanctuaries / no-fish zones																					
• Provide education and awareness																					
18. Contact domestic dogs and wildlife																					
• Making dogs illegal in CCPF																					
• Communication to communities																					
• Enforcement activities																					
19. Land-mine strategy																					
• Coordinate with CMAC to prospect de-mining																					
• No settlement in de-mined areas																					
20. Mining impact reduction																					
• Coordinate with ministries																					
• Strategy to mitigate mining																					

13. BUDGET

The budget for management of the CCPF was developed for three scenarios. The first scenario covers the core costs for a minimal level of site management. The second scenario covers all of the main elements of the Management Plan, but only at the minimal level for the activities to have a conservation impact. The third scenario comprehensively includes all of the main elements of the Management Plan. The budget breakdown for these three scenarios is given below. All figures are in US dollars.

Scenario 1: Core costs for minimal management

	2009	2010	2011	2012	2013
Site Management Budget					
Personnel	50,000	50,000	50,000	50,000	50,000
Transport	7,000	7,000	7,000	7,000	7,000
Office and Ranger Station Costs	3,000	5,000	3,000	5,000	3,000
Equipment Procurement	7,000	7,000	7,000	7,000	7,000
Equipment Maintenance	3,000	3,000	3,000	3,000	3,000
Activities					
Program Monitoring	8,500	8,500	8,500	8,500	8,500
TOTAL	78,500	80,500	78,500	80,500	80,500
TOTAL indexed with 5% per year	78,500	84,525	86,545	93,190	97,850

Scenario 2: All main elements of the Management Plan at the minimal level

	2009	2010	2011	2012	2013
Site Management Budget					
Personnel	70,000	70,000	70,000	70,000	70,000
Transport	9,000	9,000	9,000	9,000	9,000
Office and Ranger Station Costs	5,000	5,000	5,000	15,000	5,000
Equipment Procurement	8,500	8,500	8,500	8,500	8,500
Equipment Maintenance	4,500	4,500	4,500	4,500	4,500
Activities					
Boundary Demarcation	25,000	25,000	25,000		
Incentive Agreements	40,000	40,000	35,000	35,000	20,000
Livelihood Diversification	30,000	20,000	15,000	15,000	
Nurseries and Replanting	20,000	15,000	15,000	10,000	15,000
Research (biological, ecosystem services)	32,000	28,000	8,000	8,000	8,000
Biological Monitoring	25,000	25,000	25,000	25,000	25,000
Program Monitoring	18,500	18,500	18,500	18,500	18,500
Capacity Building (staff / Govt)	6,000	9,000	6,000	9,000	6,000
Ecotourism	14,000	14,000	14,000	12,000	12,000
TOTAL	307,500	291,500	258,500	239,500	201,500
TOTAL indexed with 5% per year	307,500	306,075	285,000	277,250	244,925

Scenario 3: All main elements of the Management Plan comprehensively covered

	2009	2010	2011	2012	2013
Site Management Budget					
Personnel	90,000	90,000	90,000	90,000	90,000
Transport	12,000	12,000	12,000	12,000	12,000
Office and Ranger Station Costs	7,000	7,000	7,000	20,000	7,000
Equipment Procurement	10,000	10,000	10,000	10,000	10,000
Equipment Maintenance	6,000	6,000	6,000	6,000	6,000
Activities					
Boundary Demarcation	50,000	50,000	25,000	25,000	25,000
Incentive Agreements	60,000	60,000	45,000	45,000	30,000
Livelihood Diversification	50,000	50,000	50,000	50,000	50,000
Nurseries and Replanting	60,000	25,000	25,000	40,000	45,000
Research (biological, ecosystem services)	44,000	38,000	18,000	15,000	15,000
Biological Monitoring	40,000	40,000	40,000	40,000	40,000
Program Monitoring	18,500	18,500	18,500	18,500	18,500
Capacity Building (staff / Govt)	12,000	18,000	12,000	18,000	12,000
Ecotourism	14,000	40,000	22,000	12,000	12,000
TOTAL	473,500	464,500	380,500	401,500	372,500
TOTAL indexed with 5% per year	473,500	487,725	419,500	464,790	452,780

Funding has been secured for core community activities until at least 2010. All core research and monitoring costs are covered until 2011. Most of the law enforcement activities are funded until at least 2010. Long-term funding for conservation of the Cardamoms Landscape will be provided through a trust fund that will be set up with funding from GCF, AFD and other sources. It is expected that this trust fund will begin to generate funds by 2011. CI and the FA also aim to secure long-term funds for site management with revenues associated with the economic value of conservation of the CCPF, particularly in relation to carbon storage and avoided deforestation. There may also be opportunities to receive long-term funding for site management from the development sector, whereby the FA protects the watershed for hydroelectric dams in order to maintain longevity of the dams, in return for annual compensation.

14. REFERENCES

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