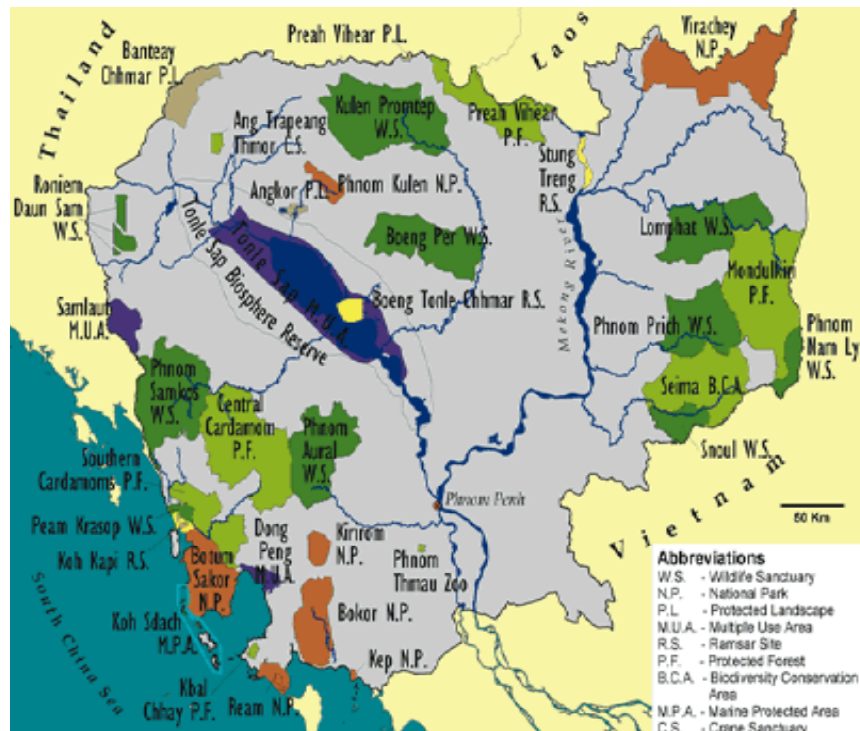




Centre for International Forestry Research (CIFOR)

MacArthur Conservation and Development Project Workshop – Cambodia



20 – 21 November 2007
Phnom Penh, Cambodia

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Workshop Schedule

Day 1 – Tuesday 20 November	Day 2 – Wednesday 21 November
Welcome and Introductions	Presentation – David Bradfield (FFI) – Phnom Samkos Wildlife Sanctuary
Presentation – Terry Sunderland (CIFOR) – Introduction to CIFOR	Presentation - Chou Sophark (VNP) – Virachey National Park
Presentation – Terry Sunderland (CIFOR) – Introduction to the project	
Presentation – Terry Sunderland (CIFOR) – Integrated Conservation and Development – Overview and Discussion	Presentation - Ramadhani Achdiawan (CIFOR) – Data collection and analysis
Discussion – The situation in Cambodia	Presentation – Luke Preece (CIFOR) – The current project and results from Vietnam
<i>Lunch Break</i>	
Presentation – Kim San (FA/CI) – Central Cardamoms Protected Forest	Small group discussion – Review and critique of variables
Group Discussion – Integrated Conservation and Development Interventions	Next steps
	Thank you and close
Presentation - Oul Kim Sear (WWF) – Mondulkiri Protected Forest	
Presentation – Tom Evans (WCS) – Seima Biodiversity Conservation Area	
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Objectives of the workshop

- To introduce the MacArthur project to representatives from selected sites in Cambodia.
- To discuss and gain a greater understanding of the situation of conservation and development in Cambodia, by communicating between partners from selected protected areas.
- To discuss the methods used for data collection for the case comparison study of the MacArthur project.

This is the fourth workshop held as part of the MacArthur project in this region.

Day 1 – Tuesday 20 November 2007

Welcome and introductions

(Please see page 23 for a list of workshop participants)

Presentation – Terry Sunderland (CIFOR) – Introduction to CIFOR

Presentation notes:

CIFOR is part of the Consultative Group on International Agricultural Research (CGIAR). CIFOR is the smallest member of CGIAR and is the only member involved in forestry research.

\$15 million / year operating budget.

This project is part of the Forests and Livelihoods programme.

At the National level, CIFOR works to influence forest policy. CIFOR also works at the local level, working with local NGOs – there is a focus on building the capacity of local partners

As well as publishing in high-quality journals and working with the international media, CIFOR believes in easy access to its research results and supports this through initiatives such as POLEX, a summary of research papers that is distributed to 14,000 recipients every month.

Presentation – Terry Sunderland (CIFOR) – Introduction to the project “Losing less and winning more: building capacity to go beyond the trade-offs between conservation and development in the Lower Mekong” – Also known as the “MacArthur Conservation and Development Project

Presentation notes:

The main benefit for collaborating organisations is capacity building – there is currently very little cross-site comparison in the region. This project aims to improve communication between key organisations working in the region to allow each organisation to learn from each other’s successes and failures.

Part of the project will consider lessons learnt from each project and the long-term impact in the project site after the conclusion of the project.

One researcher will visit all sites to ensure consistency.

STELLA modeling:

Allows exploration of possible outcomes if certain approaches are used.

For example, impact on elephant populations (see Slide 7)

- In 1990, there were 3,771 individuals
- In 2004, there were 5,866 individuals

What will you expect to happen to the elephant population in the future if you:

- Increase efforts on protection and anti-poaching?
- Increase efforts on good governance? or
- Terminate the project?

STELLA modeling can be used in this way to make projections on what will happen to the elephant population (or other measures) under a range of scenarios.

As well as valuable cross-site learning for the participating organisations, it is hoped that the capacity building is in both directions and that CIFOR learns from those organisations working in the field.

Questions & Answers / Group discussion for the two presentations:

Site selection

There were several questions relating to site selection for Cambodia. It was confirmed that the Central Cardamoms Protected Forest and Phnom Samkos Wildlife Sanctuary were the selected sites in the Cardamom Mountains and that Seima Biodiversity Conservation Area and Mondulkiri Protected Forest were the selected sites in Mondulkiri. At this time, there are no plans to include Phnom Aural and the Southern Cardamoms Protected Forest in the study.

Project benefits

A participant asked about the benefits of the project for local communities and the government.

People living in communities in the project sites will benefit in the long-term from the recommendations that come from the research – these recommendations should improve the effectiveness of project implementation.

The government will benefit from the comparisons between the three countries and consideration of the institutional factors that are at play in each country. Governments will also have the opportunity to learn from what other countries in the region are doing.

Capacity building

The term capacity building was used extensively during the presentation – specifically, what kind of capacity building will CIFOR be providing?

There are two main areas of capacity building:

1. The opportunity to be involved in the regional overview and analysis. Generation of “best practice” recommendations. Provide insights into understanding conditions where projects tend to be more successful. Real cross-site comparison and learning. Learn from mistakes and successful interventions and whether these interventions can be expanded and shared. Small projects will be given the opportunity to contribute to an important publication that will influence future conservation priorities and policy in the region.
2. More specifically, the capacity of individual field assistants in each of the three countries will be built. Data that is collected for the project can be used for local graduate degrees. As CIFOR has links to scholarships, it is expected that each of the field assistants will be able to gain a Masters degree from the project.

Presentation – Terry Sunderland (CIFOR) – Integrated conservation and development – Overview and Discussion

Presentation notes:

Is community development really contributing to conservation?

- Conservation and development projects tend not to be truly integrated
- Development activities may compromise conservation

Integrated conservation and development projects (ICDP) have not been as successful as predicted:

- ICDPs have been based on the assumption that both conservation and development would benefit if the two were done together. However, there was no sound evidence on which to base this assumption.
- Working with “communities” is idealistic – it must be recognized that the individuals within these communities have significant influence and differing motivations etc
- ICDPs rely heavily on donor support. Need a long-term commitment to funding for projects. Creation of “shadow institutions” that work outside of existing institutional structure / government.

Other implementation problems

- There is a lack of critical review of ICDPs – For example, a particular donor has commented that every year 200-300 donor reports are received. However, mistakes

and problems are never included. Issues must be occurring, so why are the mistakes and problems not being written about?

- Field practitioners want practical solutions, not models etc from biologists and academics.
- Significant “diversion” of taxes that were intended for conservation and related development – there is a lack of accountability.
- Lack of social science integrated into conservation projects. Social scientists are only consulted in a superficial way during planning and have little impact during implementation.
- Need more on-site collaboration and coordination eg. In one 200 sq km site in Vietnam, there were 44 NGOs working INDEPENDENTLY.

Need to consider rural livelihoods and local needs and compensate for loss of access to resources.

Lack of understanding of trade-offs

For example, in one protected area in Cameroon, there are 3 enclave communities that are dependant on bush mango for their livelihoods. These communities currently harvest the bush mango sustainably and export it for income generation. However, the government wanted to exclude all commercial activity in the area. If they enforce this, it will lead to alienation of the communities and non-compliance of management regulations. The communities are currently custodians of this resource, but if they are re-settled elsewhere, then the bush mangos will no longer be protected by communities that depend on the resource and therefore it is in their best interest to protect it.

A trade-off that would allow the communities to remain and continue to harvest the bush mangoes in a sustainable way may likely be more successful than pure protectionism.

Combining livelihood improvement and biodiversity conservation is an elusive achievement.

Discussion: The situation in Cambodia

Issues that arose during the group discussion:

Community Engagement

It is difficult to engage communities as true partners in conservation. In the Cardamoms, communities used to be perceived as “the enemy” and law enforcement was heavy-handed. This approach changed approximately three years ago, however even after three years of relationship building and support, communities there are still opposed to the conservation efforts.

CI has attempted to engage the community through involving them in on-the-ground conservation activities, such as the Community Ranger Program. CI is also trying to build governance and capacity in the community to allow them to manage their own natural resources. Overall, this has not been as successful as originally hoped – however, there have been some small successes, such as the establishment of the Commune Natural Resource Management Committees, who remove more snares than the government rangers do. This inevitably creates conflict in the community, when the Community Rangers are removing snares that their hunting neighbors have set. In the long-term, CI is aiming to create a culture in the communities where hunting is not accepted or supported.

A PhD student who has been working in the area discovered that the community members say that the program has benefited them.

Almost all Protected Areas (PAs) have some community involvement in patrolling and this tends to be relatively successful.

It is important to conduct environmental surveys so that people understand what is living in the forest and what exactly they are conserving.

Money as a motivation

FFI has also been trying to engage the community and even though they have a different project design, they have encountered similar successes and problems to CI. For example, they have found that local people tend to be motivated by short-term profits and how much they can make TODAY - the sustainable activities supported by NGOs (such as chicken raising, establishing vegetable gardens, fishing) are not nearly as profitable as hunting and selling wildlife and do not compare with the amount of money that oil companies may offer them. They must consider whether conservation or business will benefit them more. These external factors create a conflict of interest for the communities who are being engaged in conservation efforts.

Dani gave an example of local people paid by the government for doing conservation. These people tend to be poor without any resources (except maybe mining or hunting). However, their ultimate motivation was to gain access to finance, not conserve.

The concept of paying communities to not engage in small-scale hunting or not encroach on PAs is an interesting one – it is difficult to pay people NOT to do something.

Agriculture

There has been a push to intensify agriculture to relieve pressure on the forest. For example, in Monduliri an intensive rice cultivation technique called System of Rice Intensification (SRI), fish ponds and vegetable gardens have all been introduced.

FFI has had significant success with SRI - communities have doubled or tripled their rice yield using this method.

Incentives for rangers

CI has introduced a scheme to pay small incentives to rangers for specific activities such as removing snares, confiscating chainsaws, shutting down sawmills and arresting hunters. For example, rangers can be paid 1000 Riel for a tiger snare or 100 Riel for a pangolin snare. Incentives differ for government and community rangers.

A new scheme was introduced in January this year for government rangers. This scheme is more generous, for example paying \$20 for confiscating a chainsaw. There has been a significant spike in performance and law enforcement success since the introduction of this new scheme. CI has maximized the amount of a ranger's total remuneration package that is delivered through these incentives which vary depending on time and performance in the field. However, CI has found that the administration of the scheme is quite time consuming.

FFI has a similar incentive scheme – at the beginning of every quarter, goals (such as a certain number of snares) are set. Rangers then work hard to achieve these targets. Administratively, this has been quite easy.

Situation in Virachey National Park (VNP)

In VNP, there are 6 programs, including a community development program that involves the community in the management and conservation of the park whilst attempting to improve their livelihoods. A Community Protected Area (CPA) has been established for them to protect. The livelihood improvement project involves small grants to support agricultural development in the village. VNP will support projects that contribute to the conservation of the park.

VNP staff go to the villages to share agricultural techniques, such as new techniques that will improve rice yield. The local people like projects that produce tangible results.

There is also an education / awareness program so that people living in the communities in the park understand the important of the park and get involvement in its management.

Cooperation and collaboration

Although many NGOs work closely with the local communities, collaboration with the local government agencies is frequently overlooked. The result is that the local government is working in different ways to achieve different objectives, which often leads to conflict with the

communities and NGOs. NGOs, communities and the government should work together in the same direction.

Many NGOs have had success with this in Vietnam, with significant social benefits to many individuals.

Improving livelihoods

The validity of the assumption that if you improve people's livelihoods, then conservation will benefit, was discussed. It is true that people with no other income generation alternatives will go to the forest for resources. However, sometimes if livelihoods are improved, then people want to buy more land, expand their businesses and commercialize non-timber forest products (NTFPs) etc., which all have a negative impact on conservation.

In Malaysia, a much more affluent country, wildlife (such as turtles) is still abundant, even close to the cities. People have enough money and do not need to take the turtles from the wild for income.

It was suggested that if people understand that the park belongs to them, and see how it can benefit them (eg, through eco-tourism), then they will be more likely to support conservation efforts. They need to understand that if the park is destroyed, then they will lose these benefits.

Human-wildlife conflicts

There have been some human-elephant conflicts in eastern Cambodia, but not so many in the south-west of the country. This is because most wildlife populations are seriously depressed and the remaining animals are scared of people. In the Cardamoms, there have been some problems with wild pigs coming into people's gardens, however people have started to exploit this issue and have set snares for the pigs.

The issue in Cambodia is not nearly as serious as in Africa. For example, in Africa, eleven community members were killed by elephants during a wedding in 2001. Although you occasionally hear of people being killed by elephants in Cambodia, the problem is minimal due to very low numbers of elephants in the forest. There was one death in 2006 in the WWF area in Monduliri.

In some parts of Africa (eastern and southern), many people are actually happy when they have human-wildlife conflicts (such as crop damage) as they are compensated with cash or bags of maize which are often more valuable than the crops that were destroyed. Cambodia also has a good compensation system.

In Monduliri, people are most concerned about wild pigs and monkeys. There was a crop failure in 2006. Even though problems with elephants are less common, the Biodiversity and Protected Areas Management Project (BPAMP) has a human-elephant program.

The amount of crop damage caused by elephants and wild pigs has increased. This may be due to increasing animal populations.

However, villager perceptions of damage caused by wild animals are not always proportionate to actual damage. For example, a study by WCS and CRDT in the Seima Biodiversity Conservation Area showed that the actual damage caused by monkeys, pigs and parakeets was less than the perceived damage. However, because the villagers perceived that there was a problem, WCS and CRDT acknowledged that it needed to be addressed, as the villagers were prepared to kill the animals to protect the crops. Diesel rags and video cassette tape was used in the field to scare away the animals. These approaches had only limited success in reducing actual crop damage. However, the villagers were happy that something was being done and the perception of the problem was reduced. The existence of the project itself changed people's perspective and benefited conservation.

In a PA in Laos, there is a huge problem with human-elephant conflict. Elephants frequently travel through the 15-20 km buffer zone and into the community land. One organisation

convinced stakeholders that the installation of a very expensive electrified fence would solve the problem. Within 2-3 years, the buffer zone had been encroached and people started to grow maize with meters of the fence. Elephants then began to flatten the fence to access the crops. This resulted in decreased land available for the PA and greater conflict with communities.

Problems with insects, termites and grubs attacking rice crops are more of an issue than conflicts with larger animals. But it is important to recognize that these insects are an integral part of the forest ecosystem.

Perspective of the local people

Kong Monkol, a Community Ranger in the Cardamoms said that 90% of local people living in the Cardamoms depend on hunting and the forest for their livelihoods. He expects that in the future a NGO will come to build the capacity of local people and establish an ecotourism project in the area.

Land encroachment / in-migration

The easier and more economically viable we make it to farm inside the forest, the more incentive there is for outsiders to come into the forest and farm there. This leads to more roads, more food to be transported and more pressure on the forest. It is important not to attract more people to move into the PAs. Migrating farmers bring family members, who then may start to hunt. In Sumatra, coffee farmers are moving into PAs because if you farm in a PA for more than 5 years, then you are entitled to compensation.

Migrants also bring with them new ways of living and agriculture – for example growing cashew trees. Due to poor soil quality, traditional crops are less appealing. However, as there is typically only one harvest per year in Cambodia, people have a lot of spare time that could be used to make compost to improve soil quality – this needs more study.

Due to the issues of land titling in Cambodia, many people purchase land in PAs, despite the fact that this is technically illegal. Land here is cheap (approximately 2% of the price of land in Phnom Penh) and rich people from outside can employ people cheaply to grow rice on that land. The Environmental Law needs to be enforced to prevent this. Pressure needs to be placed on relevant people at the senior level as it is very difficult to enforce on the ground without support from above.

Land Use Planning

The discussion on in-migration and land titling led to discussion about land use planning.

The Protected Areas law will be discussed by the government in December. If it is passed, then land in PAs can be formally managed on a sustainable basis.

The Protected Areas of the Ministry of Environment are different to the Protected Forests of the Forestry Administration. Protected Areas and Protected Forests need management plans. Mondulhiri Protected Forest has four zones (Restricted / core, regulated, ecotourism and community zones). Establishing Natural Resource Management (NRM) is important for sustainability. Land encroachment and land grabbing are important issues in the zones, and each zone should have land-use planning to target different issues. Development of these zones needs to be done in accordance with the law. Areas for protection, use and fishing etc should support the conservation area. We should be able to facilitate both areas, with assistance from the government.

Donors

The buzzword in conservation is currently “communities”. Donors expect that around 70% of funding will go to the communities living in and around any given PA.

The donor community has had a huge responsibility to push the community development agenda – however, this has been done to the extent that it is now impacting conservation.

Now that climate change and Reduced Emissions from Deforestation (REDD) is growing in importance, it is hoped that this trend will reverse as carbon payments depend on conserving vast areas of land for carbon storage. However, this will depend on good governance and an equitable share of the benefits.

External threats to biodiversity conservation

There are major threats in biodiversity conservation that are largely out of our control, such as the construction of roads, dams, mines. These impact conservation, so what can be done to mitigate the effects of these threats? Are organisations working with the companies that initiate these developments?

A major issue in Cambodia is the lack of dialogue across the ministries. The Ministry of Industry, Mines and Energy (MIME) is very powerful and does not consult with the Ministry of the Environment (MoE). For example, the MoE only became aware of a proposed 10,000 ha mining concession in a PA after they were copied on the approval letter from the MIME. The MIME has provided permits for mining exploration in VNP, even though this is illegal unless the MoE has given their approval. This relates back to zoning and land use planning, as it is possible to accommodate investment / mining exploration in the community zone. However, if the zoning is not well-defined, then it is difficult to use this effectively to prevent mining companies and other external organisations from entering critical areas.

However, in the central Cardamoms, large development projects will do what they like regardless of the zoning.

It was emphasized again that communication needs to be improved between Ministries.

However, it was acknowledged that from a broader perspective, Cambodia really needs this development, including hydro-power. For example, the demand in China for natural resources is huge. These decisions are being made at the prime minister level and Ministries are not always involved in the actual decision-making process. These are huge institutional issues that we are dealing with.

The roll-on effects that come with these big developments are concerning – for example, roads bring massive in-migration (such as the development of Route 48 from Bangkok to Ho Chi Min City). WildAid managed to maintain the rainforest very close to the road, which was a major achievement. Road development is also a significant problem in Mondulhiri.

It was suggested that in the long term, local people have the biggest impact on conservation, but in the short term, these major developments have a more significant impact.

Presentation – Kim San (FA/CI) – Central Cardamoms Protected Forest (CCPF)

Presentation notes:

CCPF is located in the south-west of Cambodia over 3 provinces – Koh Kong, Pursat and Kampong Speu. CCPF is connected to several wildlife sanctuaries and national parks, including an elephant corridor, forming one of the largest conservation areas in mainland SE Asia. The entire “Cardamom range” protected area is 1.8 million ha.

In regards to biological features, considerable research has been done on fauna, but more needs to be done on the flora in the park. The “Biological Features” table on Slide 4 was done in 2005 and should be updated next year, as more research has been conducted since 2005.

Another threat not mentioned in the PowerPoint presentation is that feral dogs are a threat to conservation in the area, but there is no clear legislation to prevent dogs from entering the park.

The ranger and patrol system is structured so that when the long-range patrol team returns from the forest, they overlap for two days with the team that has been doing daily patrols team

so that they can communicate updates before the second team sets out for a long-range patrol. In the rainy season, long-range patrols are difficult due to malaria and river crossings etc.

Patrols target places that have a lot of crime. The patrols aim to visit places marked with a question mark on the map to find out more about activities in those areas. The map is updated every three months.

Pictures:

Picture slide 1 - FA and patrol team work together. Search for snares. Sometimes they encounter fighting between poachers.

Picture slide 2 - Surveys are initially conducted from the air, then ground staff are directed as to where they should investigate. It is difficult for poachers to cross the railways line, so they often remove it. Buffalo are a major form of timber transport. Therefore, buffalo are confiscated.

Picture slide 3 – Cars are also used to transport illegal forest products. Sometimes black bears are caught.

Picture slide 4 - Rangers try to eliminate the Mreas Prov production from the forest. Mreas Prov is difficult to transport. It is used to produce ecstasy. The oil is made in the forest.

Picture slide 5 - Training courses for rangers including first aid courses. Build ranger relationships with local people. Cannot do conservation alone – participation is important.

Picture slide 6 - Forest demarcation. This is particularly important to prevent future land grabbing.

The health post was provided because it is such a remote area and the mortality rate was very high. The number of people dying from disease has decreased dramatically since the introduction of the health post.

The Conservation Stewardship Project is currently in its second year and has so far been successful in conserving biodiversity. The Community Rangers are trained to protect the resources themselves and become the “stewards” of natural resources.

Questions & Answers / Group discussion:

Community improvement

A workshop participant asked how the organisation helps the communities living in CCPF to improve their living conditions.

The communities benefit from the Community Stewardship Project. Those who participate in the Community Ranger Program receive \$5 a day. In addition, the communities are paid a benefit for not catching dragon fish and crocodiles. The money goes to the entire community, not individuals and the community council decides what to do with the money. Recently, they bought buffalo to plough the fields. Now they have a buffalo bank and the number of buffalo in the bank is increasing every year.

The Health Care post has also been introduced in the community. The costs are covered by CI and Care for 5 years. If community members are very ill and need to be transferred to town, CI and Care will also cover this expense. Recently, they have started to charge a small contribution from those seeking services to ensure long-term sustainability.

Power of community rangers

Community rangers do have the right to arrest offenders. But a local forest ranger must prepare the documentation to be sent to the provincial courts.

Group Discussion - Integrated Conservation and Development (ICD) Interventions

What initiatives can be used to integrate conservation and development? Are these considered to be ICD projects?

Community Payments for Protection

CI and FFI currently implement community payments for protection. It is very case-specific and can work well in some situations. For example, paying communities not to catch dragon fish in the Cardamoms has had a good impact on communities and is cost-effective.

Intensive Rice Cultivation / Rice intensification (shifting – sedentary)

Instead of using shifting rice cultivation, encourage communities to use the same land (sedentary agriculture). CI has been working on rehabilitating the degraded land and improving soil quality.

Due to the difficulty of generating discussion in the large group, the rest of the ICD interventions were discussed in small groups:

Small Group Discussion – Integrated Conservation and Development (ICD) Interventions

Participants were broken into three groups and each group was asked to discuss three or four specific ICD interventions. For each potential intervention, groups were asked to determine:

- Whether implementation of this particular approach would be possible in Cambodia?
- What are the opportunities and benefits for conservation and development that could result from implementation of each ICD intervention; and
- What are the constraints in Cambodia (on both a national and community level) to achieving this?

Group 1 ICD interventions:

- Community Payments for Protection
- Agriculture
- Patrol incentives
- Health

Group 2 ICD interventions:

- Capacity building / education
- Carbon payments
- Law implementation and governance / institution building

Group 3 ICD interventions:

- Payments for Environmental Services (PES)
- Cooperation and Participation
- Land Use Planning
- Ecotourism Programs

Please see Appendix 1 for the notes from this group discussion session.

Presentation – Oul Kim Sear (WWF) – Mondulkiri Protected Forest (MPF)

Presentation notes:

Srepok River is a potential habitat for dolphins. There is currently some illegal hunting of dolphins.

The Community Extension Team works with the community to establish Natural Resource Management (NRM) plans for the protected forest.

Although illegal hunting has been reduced from 2004 levels through improved enforcement and ranger activities, it still continues in 2007.

Gold mining is very important to the area. There is one mine in the protected forest. However, the mine causes much pollution, and the people living in the area complain.

The project has established honey and resin associations in the target communes.

There has been land encroachment along the road.

There are plans to introduce ecotourism in the core / restricted zone in the near future. As it will be based in restricted areas of the park, the ecotourism activities will not be owned by the community.

MIST – Monitoring Information Systems Technology

MOM – A WWF representative went to South Africa to learn about this monitoring system and how it can be applied in MPF.

Questions & Answers / Group discussion:

Q. You mentioned two main parts of your project strategy: Community-based natural resource management (CBNRM) and wildlife ecotourism, but what about law enforcement?

A. MPF does have significant law enforcement, and is considered under the CBNRM part of our strategy.

Q. Is it correct that you have only 32 rangers to patrol the entire area, which is almost 40,000 ha?

A. Yes, our community based rangers are excellent and know the area well. There is not a large human population in the area but we want to increase the size of the ranger team in the future.

Q. You managed to restore large mammal population through CBNRM. How?

A. WWF produced a range of educational materials that explain why the animals are important to the people living in the area. We tell the people not to harm the animals, but to protect them instead.

Q. Do you collaborate with other stakeholders?

A. Yes, WWF have monthly meetings with relevant stakeholders including FA and ground-level police. Cooperation with police is important, as hunters use guns.

Q. Do community rangers patrol on their own?

A. No, community rangers conduct patrols together with the police and FA, as they have more power under the law.

Q. You mentioned 16% population growth. Is this through natural population growth or in-migration?

A. Both in-migration and natural population growth is included in the 16%. No breakdown is available how much can be attributed to in-migration vs. natural growth.

Comments on the staff exchange to South Africa to learn about MOMs – It is a great opportunity to see nature tourism in action through study tours. The staff exchange is very

useful. South Africa is how Cambodia used to look 50 years ago. And how it could look like again in the future.

Presentation – Tom Evans (WCS) – Seima Biodiversity Conservation Area (SBCA) (Also in Mondulkiri)

Presentation notes:

SBCA was heavily involved in Vietnam War – the Ho Chi Minh trail passed through SBCA. There has been massive migration, with many people moved out of the area during the Khmer Rouge. WCS has worked in partnership with FA since 2000.

In terms of conservation priorities, SBCA scores very highly on all measures – it is a very important site for conservation.

SBCA is home to large populations of yellow feet gibbons, other monkeys, elephants and tigers. The project is aiming to recover tiger population. There are also many important bird and reptile species in the park.

SBCA has a similar ecological and ethnic background to WWF Mondulkiri Protected Forest. Throughout the forest (including the core zone), there is a human presence. The communities are highly dependant on forest products. Resin tapping in particular is important. WCS and FA must work with these communities.

Law enforcement teams are led by FA staff and include police (military, regular and border) and community rangers. The patrols were established in 2002 and are expanding every year. About 50% of the area gets regular patrols.

Participatory Land-use Planning (PLUP) is used to determine which areas villagers can use, whilst ensuring that areas critical to conservation are not cleared. In addition, this allows villagers to identify area that are culturally / spiritually significant to the communities and know that their homes and land is secure.

In some sites, land grabbing is a very serious issue. Before WCS and FA worked in the area, communities had organized their own patrol teams to protect their land. These teams coordinate with the FA so that they stay within the law.

After the PLUP, community development was initiated in partnership with Cambodian Rural Development Team (CRDT). It is hoped that this will improve livelihoods without leading to increased forest clearance.

The biggest threats to SBCA come from large outside investors and development activities (such mines, factories, towns etc). Senior FA and MoA staff have been largely effective in dealing with many of these threats. Dealing with decision makers is one of the most critical conservation activities, even though it takes place in Phnom Penh, far from the actual park.

Villagers in the park know that if there is in-migration, then that will mean less land for them and their families, so they are happy to work with FA to minimize this.

WCS have invested a lot in wildlife monitoring systems.

Future work involves expanding patrols and community work. WCS and FA are also looking at areas outside of the current boundaries that are important for tiger conservation. These areas may be identified as blocks of land for potential core areas or corridors and will be discussed with MAFF and FA.

WCS and FA are encouraging the Council of Ministers to sign a sub-decree to give greater protection to SBCA. WCS and FA are emphasizing that SBCA is different to other PAs in Cambodia, as it is a production forest as well as conservation area, supporting economic activity that is compatible with conservation.

Questions & Answers / Group discussion:

Long-term institutional strategy to ensure funding

Lucky to have a diverse funding base (approximately 10 donors). In addition, WCS recently reviewed their strategy to focus on a limited number of landscapes and SBCA is one of the priority areas. SBCA has tigers and elephants, which are both charismatic animals that are a focus of WCS International fundraising, so future funding is relatively secure.

Presentation – Hean Pheap (CRDT) – Sustainable Land Use and Management for Ethnic Phnong Communities Project

Presentation notes:

Comments on project activities:

- CRDT staff help villagers make chicken pens out of bamboo – this prevents their chickens from catching diseases
- To improve the yield from villagers' home gardens, CRDT provides training in new farming techniques.
- CRDT helps farmers access local markets to sell their produce
- CRDT provides training in the System of Rice Intensification (SRI) using simple techniques.
- After the main crop harvest, the land can be used for mushroom production
- Talk about cultivation of cover crops. If you don't want people to clear land, can use cover crops to increase the fertilization of the soil.
- Villagers can make compost to use on their home gardens
- Farmers are taught how to make and use 'manure tea'
- The self-help groups started 2 months ago

Conclusion:

There are lots of valuable natural resources in Mondulkiri.

The priorities include:

1. Conducting research to examine the biological situation and the impact of human activities.
2. Cooperation at the national and international level to identify protected areas for the community and involving the local authorities and patrol rangers to enforce the laws in these areas.
3. Education of local people, in particular providing training through state schools and monasteries and to produce information materials (such as videos, posters, radio programs etc) to educate the public about environmental protection.
4. To build the technical agricultural skills of local people and to give them the skills to be able to generate income through ecotourism, credit and handicrafts. In addition, support community development activities such as providing clean water and public health.

Comments from Adam Starr, previous Program Manager with CRDT:

The critical difference with CRDT is in implementation – they are injecting university educated young Cambodians into the communities to act as a resource and empower the communities. CRDT staff live in the communities in which they work. CRDT has 3 field offices in the FA offices and staff work closely with the rangers. Pheap and all other staff have become an integral part of their communities, giving a voice to the community. The other main strength of the project is that all project activities are integrated with each other.

Questions & Answers / Group discussion: (regarding all Mondulkiri projects)

Establishment of environmental law.

The conservation area is currently declared under the *prakas* which does not give any extra protection over and above the Forest Law. WCS are hoping to obtain a sub-decree to give Presentation protection.

Faunal migration corridor

SBCA is at a cross roads with five other PAs. It would be good to link these together. The MoE would also like to encourage this.

Management structure

It is essential to have a clear management structure in the conservation area to ensure sustainability. The central project staff are all from FA. WCS staff are there to support FA, but the management structure is very clear and defined by FA. However, funding for the project is linked to WCS, so they are still critical. If FA managed the area alone there might be some concerns with attendance – this would probably be true for all PAs in Cambodia.

Q. How do you deal with problems that arise with institutions (such as the army)?

A. Most of WCS staff are actually government (FA) staff on contract. Therefore FA takes a lead in solving problems, as they have good connections.

Day 2 – Wednesday 21 November 2007

Presentation - David Bradfield (FFI) – Phnom Samkos Wildlife Sanctuary

Presentation notes:

- Administered by Ministry of Environment with support from FFI
- Phnom Samkos Wildlife Sanctuary has a wide diversity of species including a significant population of tigers. New species are continuously being discovered in the park. In the past year, new species of geckos and frogs were discovered.
- There have been issues with land ownership when the park was first set up.
- Another major concern is that the amount of livestock in the sanctuary is increasing as the area is being developed, even though the land here is not good for cattle.
- Forest products include luxury timber, forest fowl etc.
- Threats:
 - Illegal logging of luxury timbers - Very valuable, used for furniture. Demand has increased with development in Phnom Penh and increasing disposable incomes. Trees are cut down by local residents using chainsaws and sold to businessmen.
 - Illegal NTFP processing - Mreas Prov oil processing involves an entire business based in the sanctuary, run by military personnel and wealthy individuals from mainly Vietnam. The oil is made from beautiful huge trees, but only the roots are used. The roots are boiled for 1-2 weeks in large pots to extract the oils. Because of their size, these pots are very difficult to destroy. The number of factories in the Sanctuary appears to be decreasing (from an estimated 80 factories to approximately 50). It is not clear whether this decrease relates to a depletion of resources or the enforcement efforts of FFI and the military.
 - Illegal hunting of wild animals – It is estimated that the enforcement efforts only stop about 10% of the illegal wildlife trade in the Sanctuary.
 - Illegal clearing and occupation of land – Wealthy outsiders pay local villagers to clear the large areas of forest. This land is then sold at a large profit. It appears that many military personnel are involved in this activity.
- Financial sustainability is a major issue – FFI is currently considering trust fund / government fund arrangements.
- FFI subcontracts CEDAC to do the agricultural development work in the Sanctuary, as they have greater skills and experience in this area.
- There is a significant military presence in the park. This causes many issues as the military personnel are paid less than \$50 / month and have little military work to do. This gives them the time and the motivation to engage in illegal activities in the forest. The Cambodian government wants them to stay there as it is a strategic location on the Thai border.

Questions & Answers / Group discussion:

In-migration

The difficulty of developing strategies at the ground level to manage in-migration was discussed. It was felt that this needs to be conducted at a more senior level to be effective. The capacity of the Ministry of the Environment needs to be built so that they can prevent the Ministry of Mines and Energy from approving development projects (such hydro-electric dams and mining) that bring workers into the park. WildAid has used different strategies to ensure that no people live in the core zone – they have worked through the provincial government and the Forestry Administration (FA) to relocate people.

It was suggested that population levels should be considered when designing zoning plans. It can help if communities understand that no extra land will be allocated for population growth other than natural population growth. This way, existing residents will discourage other people from moving into the protected areas. In areas where this approach was not used, some populations doubled within 1-2 years.

Military in the Sanctuary

There was a general agreement that it is good to involve the military in the management of the park. However, it is difficult to know how to involve them, as they are accountable to a different ministry and have their own agenda and activities (both legal and illegal). Virachey also has a lot of military in the park, as it is close to the Vietnam and Laos borders.

Formal cooperation and agreements are a long-term approach, but building personal relationships with Commanders helps in the interim. Dialogue and meetings are considered important.

In Botswana (Southern Africa), the Prime Minister of the country is a very keen conservationist and has involved the entire (well-equipped and well-paid) army in conservation. There are military bases near all park headquarters and the conduct patrols using boats, vehicles and helicopters.

Some concerns were expressed about the human rights and democracy issues that may arise through this technique. It was acknowledged that the political situation in Botswana is different and any similar projects in Cambodia would be a long way in the future and would have to be very carefully managed.

Zoning

The zoning of Phnom Samkos Wildlife Sanctuary is well-advanced and has been signed off at the provisional level. Further approval at a higher level is waiting, pending clarification of what is happening with mining concessions. This is likely to take a few years to finalize. However, the provincial government is well-respected by the community.

Proximity to Thailand border

Due to the proximity to the Thailand border, there is some impact from trade and people passing through the park. However, the mountainous terrain means that it is nearly impassable during the rainy season. There is talk of making the border an international border and upgrading the road – this would place greater pressure on the park.

Presentation - Chou Sophark (VNP) – Virachey National Park

Presentation notes:

VNP is very close to PAs in Vietnam and Laos. It falls into two Cambodian provinces - Ratanakiri and Stung Treng.

VNP conducted a biodiversity study in 1998 (see Slide 3 for details of results).

The park conducts two monitoring flights each year, including one at the beginning of the dry season. This is because illegal activities tend to take place during the dry season.

Land encroachment has decreased from previous levels, but government investment in land continues to put pressure on the park. Communities are also moving into the park. The community development program tries to deal with this problem.

VNP needs to cooperate with international NGOs to conduct surveys in the park, as VNP does not have sufficient budget to conduct surveys alone.

Community Protected Areas (CPAs) have been established and communities have the power to manage their CPAs. There are many Community Forestries in Ratanakiri, but there are issues with sustainability as once the NGOs withdraw, the government does not recognize the Community Forestry.

The photos on Slide 20 show distribution of equipment, a rice growing demonstration, and production of fertilizer.

Among the 70 rangers in the park, around 35 are from the community.

The community levy is charged to visitors and allocated for the community. Guidelines for how this money should be used are currently being developed.

The ecotourism program is aimed at foreign visitors.

Questions & Answers / Group discussion:

Q. Ecotourism has only recently started in VNP and the current income stream from these activities is still small. Have you done any studies to predict future revenue from ecotourism?

A. So far we have not done any predictions of future potential revenue. However, we know that we need to at least cover the cost of activities and the salaries of the ecotourism staff. We want to increase the number of visitors, but we are aware of the impact of visitors on the park and the community. So we will need to manage the number and frequency of visits. We are working to integrate the VNP ecotourism program into national tourism planning.

Involvement of government in ecotourism

The park entrance fee is set by the government. 50% of this fee goes back to the MoE (and is then transferred to the Ministry of Finance); 20% goes to the local community and 30% is used for park management. The community levy was introduced to help benefit the local communities. VNP also cooperates with the Department of Tourism to promote and facilitate the ecotourism project. None of the income stream goes to the Department of Tourism, however.

Community Protected Areas (CPAs)

CPAs are useful for giving responsibility to community. However, sometimes issues arise if the community does not have the same perception as the MoE as to what the land is to be used for. However, in VNP, the community understands that the land is to be managed sustainably. VNP staff members have had many meetings with the CPA Committee members and have conducted training with the broader community. There is also one staff member who is dedicated to working directly with the communities to ensure common understanding.

Presentation - Ramadhani Achdiawan (CIFOR) – Data collection and analysis

Presentation notes:

The type of analysis that will be conducted will depend on the data collected.

Although the selection of sites (sampling) is not random, we need to consider whether the sample is representative.

CIFOR plans to publish the findings from this project, similar to the previous report in Ecology and Society "Markets drive the specialization Strategies of Forest Peoples", which has 30 authors / collaborators from Africa, Asia and Latin America.

Multivariate analysis is often used in scientific analysis as well as market research. It is a widely used approach and new techniques are frequently developed. This project gives us an opportunity to use the most up-to-date multivariate analysis techniques.

Questions & Answers / Group discussion:

Concerns were expressed about how the proposed analytical techniques would deal with the common issue of running many statistical tests on the dataset and obtaining significant results just by chance. Multivariate analysis is more powerful than simple hypothesis testing using a bivariate analysis. Multivariate analysis is particularly useful to explore the dataset and identify tendencies and groupings in the data – good to gain an understanding of the data before proceeding to specific hypothesis testing.

The outcome assessment will be done separately from the initial data analysis – CIFOR will hold workshops at this stage.

A systems analysis (similar to a STELLA model) will also be used to analyze the results and test hypotheses from the 15 landscapes.

There was extensive discussion about the validity of using data collected from the 15 sites to generate specific hypotheses and then testing these hypotheses on the three selected sites, which were also included in the original 15-site analysis. It was suggested that it may be more appropriate to exclude the three detailed sites from the original analysis to ensure that the hypothesis testing was independent of the hypothesis generation.

Luke clarified that we are trying to compare the sites and understand the systems, not necessarily test hypotheses – if the focus was on hypothesis testing, then a significant larger sample size would be used. The detailed data collected from the three sites will be used in a different way.

It was also pointed out that it is important to ensure that the sites have the same variability in order to be able to compare them.

There was still considerable confusion, but it was hoped that the next presentation would clarify many issues.

Presentation – Luke Preece (CIFOR) – The current project and results from Vietnam

Presentation notes:

Alongside the MacArthur project, Luke Preece is undertaking a PhD - “Synergies and tradeoffs between Conservation and Development in Laos, Cambodia and Vietnam”

In addition to the 15 landscapes, 3 sites will be studied in much greater detail:

- Cat Tien National Park in Vietnam
- Seima Biodiversity Conservation Area (SBCA) in Cambodia
- Laos site TBA

Have recently visited sites, run workshops and conducted interviews in Vietnam and will now commence the research in Cambodia.

The graph on Slide 4 shows hypothetical results from the project. The dots in the middle of the graph represent projects that are as close to integrated as possible, whereas the dots on the lower-right part of the graph represent projects that are more development focused and dots in the upper-left represent projects that are more conservation focused.

The graphs on Slides 5 – 10 represent results from focus group discussions in the workshop in Vietnam. Participants were not given a framework, but were asked to note successes and failures for both conservation and development. Graphs show frequency of each success/failure being reported.

It is apparent that people are much more likely to report on conservation and development successes rather than failure. It is important to remember that this reporting is very subjective – three people from Cat Tien National Park scored it in three very different ways (see results on slides 9 and 10). This simple analysis was not rigorous, but can highlighted general trends and a rough understanding of some issues faced in Vietnam.

The landscape trends component of the project has not yet commenced. The lessons learnt / case comparison results will feed into the landscape trends analysis.

The local livelihoods component of the project will examine the same three sites as the landscape trends. The villages to be used in the study have already been selected. One village study has already commenced in Gati (Mondulkiri) – will return to complete this study. Two focus groups in Gati have been conducted:

1. Resource maps – This showed that the community uses the forest a lot, especially for resin tapping. It was interesting to see how far people would travel from the village.
2. Forest management - How can the community help to manage the forest better?

STELLA models for conservation will be built from data from reports and people's opinions. The models will be exploratory model to run scenarios to explore what outcomes might arise from certain interventions. The idea is to gain a full understanding of the system and generate discussion amongst stakeholders.

A "major project" is defined as a government department or a NGO managing a landscape. A "smaller project" would include health projects, CRDT, Nomad etc. who work in the area sometimes.

In Vietnam, most landscapes are managed by government departments - only some had NGO partnerships.

Preliminary results show that hunting and logging was scored as a relatively low concern by most people interviewed in Vietnam. This is mainly because there is nothing left to hunt or log. Having visited the sites, Luke agrees with the ratings given by the people interviewed.

In the past, people living in National Parks in Vietnam have been moved from the lowlands to the highlands – this government policy has impacted the parks.

Questions & Answers / Group discussion:

Q. When you were talking about project outcomes, it sounded like the data comes from questionnaires. However, you all also collecting reports and other project documentation. What will these be used for?

A. The reports and other source documentation are used to back up the ratings that people make on the questionnaire.

Q. If you disagreed with the ratings that people made on the questionnaire (based on your field trips, readings etc), would you change their ratings?

A. In this situation, the points of disagreement would be discussed and if they chose to change their rating, then this would be noted in the comments / narrative. These comments are useful to re-check data, ensure consistency and support ratings.

Q. How did the people in Vietnam who were forced out of the core zone in National Parks feel about the compensation that they received?

A. Within the workshop, there were differing opinions on this. Some felt that although the government had pressured the communities to move, the communities had agreed to the move as their previous living place was not great and they received financial compensation for the move. They were happy with the money given, but now they have spent it. A differing opinion was that the communities were very unhappy that they were forced from their land, as they suffered significant harvest loss.

Q. Central to the results of this project is ensuring that the outcome measures are reliable. Can you describe the strengths and weaknesses of your methodology? Is there a danger that the quantitative measures don't truly capture the outcomes?

A. It is extremely difficult to get strong, comparable data on all outcomes from projects in different countries as the situations in each project differ considerably. For example, in Tam Dao, the situation has improved, people have moved out of the PA and in the last few years, there has been re-growth of vegetation. Attitudes towards conservation here have increased. In contrast, in Cat Tien, the conservation area was already good and the park management and communities have just needed to maintain the status quo. Attitudes towards conservation here have not really changed. There are differences between all the sites in terms of livelihood development, enforcement, conservation attitudes etc.

Small Group Discussion – Review and critique of variables

Participants broke into 4 small groups to discuss the selected variables. These variables have already been revised several times and valuable feedback was obtained during the recent workshop in Vietnam. Each group was asked to identify any potential gaps, whether there was any overlap between certain variables, whether the variables could be streamlined and how appropriate each item was from a Cambodian perspective.

Suggestions for improvement were then presented to the workshop by a representative of each group.

Please see Appendix 2 for details of the recommendations made by each group.

Next steps

- Gathering data from each organisation:
 1. Invite site leaders to participate in the project;
 2. Request permissions to visit each site from the Ministry of the Environment;
 3. Conduct site visits – Luke would like a guide from each organisation to show him around the landscapes and discuss issues with him; and
 4. Collect data and write narrative summaries. (Narrative summaries to be approximately 10 pages to be published into a book by CIFOR in 2009).

In total, approximately one month of someone's time from each organisation will be required over the next year (there is budget available to reimburse organisations for this). Luke will contact each organisation to make arrangements.

Concerns were expressed regarding the availability of staff during this busy time, but it was acknowledged that this was an important project.

Thank you and close

With great thanks to all workshop participants...

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Appendix 1 - Notes from small group discussions on Integrated conservation and development (ICD) interventions

Participants were broken into three groups and each group was asked to discuss three or four specific ICD interventions. For each potential intervention, groups were asked to determine:

- Whether implementation of this particular approach would be possible in Cambodia?
- What are the opportunities and benefits for conservation and development that could result from implementation of each ICD intervention; and
- What are the constraints in Cambodia (on both a national and community level) to achieving this?

Group 1

Community Payments for Protection

Benefits:

Local knowledge from local people
Increased enthusiasm from local ownership
Cost effectiveness (lower wages needed than other rangers)
Donor interest in local participation

Constraints:

Not sustainable – money ends then patrolling ends
Legal constraints – community rangers are not able to fully enforce the law. They can only apprehend perpetrators and then bring them to a law enforcement agency
Cannot process documents
Social pressures / stigma / conflicts in community (eg. neighbors of patrollers conducting illegal activities)

Agriculture

Benefits:

Poverty reduction through agricultural production
Food security
Reduced dependence on forestry
Designated agricultural areas reduce migration

Constraints:

Cultural impacts (changing traditional farming techniques) / loss of traditions
Pollution (chemicals fertilizer etc.)
In-migration
Capacity of local people (may lack capacity in these areas)
Understanding of different methods – difficult to show how the different methods will work to the benefit of communities.
Chemicals for agriculture

Patrol / Law enforcement (LE) incentives

Benefits:

Increase patrol performance – improved number of snares removed

Constraints

Reduction of ownership or responsibility with patrols
Funding

Health

Benefits:

Family planning (population control)
Understanding / awareness of health preventions may contribute to well-being

Proper health practices for taking care of families
Understanding relationship between clean environment and good health (reduce pollution)
Modern medicines reduces illegal poaching of wildlife

Constraints

Beliefs and traditional practices
Lack of health knowledge

Comments / discussion:

Q. Was there any discussion of using forest products for primary health care?

A. No.

Q. Will family planning programs lead to people having a better standard of living?

A. None of the remaining group members are experts in this area. Conservation International has an Environment and Health program. There is some literature on the link between forests and health. There are health benefits of the forest, such as the use of forest products for primary health care and having a clean and intact environment.

Q. Are Modified organisms / genetically modified species a threat to the environment?

A. Although no participants are experts in this area, it was agreed that there are many threats from introduced species and genetically modified species would be a further threat. Chemical fertilizers would also be a threat.

Group 2

Capacity building / education

Is it possible? Yes

Opportunities:

Training
Donors quite willing to fund training activities
People always happy to receive training
Encourage / involve decision-makers; governors etc.
Introducing concept to the younger generation

Benefits

Better qualified people
Better understanding
Change perspective / attitude

Constraints

Some stakeholders are not interested
Limited human resources
Lack of monitoring
Long-term sustainability and staffing
Bureaucracy

Carbon Payments

Is it possible? Yes

Opportunities:

Global initiative is there
Establish trust fund

Benefits

More funding
More source of funding for locals

Good environment

Constraints

National level

- Not good governance
- Lack of government interest
- Lack of regulation that support the ideas

Local level

- Lack of understanding of environmental concept at the local level (and also at the national level)

Law implementation and governance / Institution building

Opportunities:

Funding is available more freely and directly to government

Benefits

- Government feels more in control
- Enhancing local livelihoods
- Stability in many sectors
- Decentralization
- Long-term sustainability

Constraints

National and local:

- Lack of transparency
- Take a long time
- Lack of communication
- Lack of political will

Note: Conservation issue is only of concern to environmentalist / conservationist.

Comments / discussion:

All communes and communities in Cambodia need to follow the Forestry Administration regulations. There are different levels of decision making. There is a need to figure out the details of how Protected Areas will run.

Group 3

Payment for Environmental Services (PES)

Opportunities

To provide a chance for local people to join in the protection of eco-systems.

Benefits

- To get a job (income)
- Enrich biodiversity
- Improving the ownership and empowerment
- Maintain local culture
- Sharing benefits

Constraints

- Conflicts of interest
- Sustainability of funding
- Management mechanisms

Cooperation and Participation

Opportunities

- Opportunity to build trust
- Share experiences

Find out problems and solutions

Benefits

Smooth implementation
Avoiding conflict
Save time and money (integrating activities)

Constraints

Confusing messages
Conflicting objectives

Land Use Planning (PLUP – Participatory Land Use Planning)

Benefits:

Land management
Good soil quality
Rich biodiversity
Minimizing human-animal conflicts if well-planned

Constraints:

Land grabbing (people from outside taking land)
Unbalanced power – national / local (eg. land may be given to private companies for investment)
Comment on unbalanced power – If land is given to private companies, there would be guidelines

Ecotourism Programs

Opportunities:

Private sector interest
Making money
Good environment

Benefits:

Creates jobs
Keeps traditional culture (if visitors are interested in learning about it, it will be retained)
Improves standard of living
Cultural exchange with visitors

Constraints:

Conflict of beneficiaries
Impact on the environment (eg. pollution, construction of infrastructure)
Capacity of community to manage program

Comments / discussion:

- Another constraint: Capacity of local people to understand tourism
- It is important to consider what kind of ecotourism is appropriate – A distinction should be made between community-based tourism and commercial tourism
- With community-based tourism, the impact of tourism on the destination is considered. For example, you might limit the number of people who enter the forest. Commercial tourism encourages lots of visitors, and commercial tour operators sometimes don't care about the impact on the environment.
- However, it may be appropriate in some situations to involve commercial tour operators who adhere to eco-tourism guidelines. NGOs do not have the right skills and structure to run tourism programs in the long-term. There is a growing demand for this kind of tourism.

Appendix 2 – Notes from small group discussion on review and critique of variables

Participants broke into 4 small groups to discuss the selected variables. These variables have already been revised several times and valuable feedback was obtained during the recent workshop in Vietnam. Each group was asked to identify any potential gaps, whether there was any overlap between certain variables, whether the variables could be streamlined and how appropriate each item was from a Cambodian perspective.

Suggestions for improvement were then presented to the workshop by a representative of each group.

Group 1 – Environmental Setting

- Infrastructure development should be included in the Geophysical features section. (eg. Road density.)

Improve collaboration and networking

Easier access - help community members bring products to markets for income generation.

But will also improve access for illegal traders.

Spread information

If we avoid increasing road density, we can control and build communication and help stop illegal hunting.

- Land encroachment.

Slash and burn agriculture

Question: Rapid birth rate can cause land encroachment because they need more land. How much land should be provided to local people for their long-term sustainable living in this area?

Questions & Answers / Group discussion:

It was suggested that road density be measured as the number of motorable roads per square kilometer. Infrastructure can also be considered a threat and could be included in the "Threats to conserved area section".

The time frame for all variables was considered. It was suggested that a consistent time frame for all questions should be applied (eg. 5-10 year), but Luke felt that the relevant activities for some variables tend to start and stop quickly, so should be measured over a shorter period. It will therefore vary by question.

Group 2 – Socio – economic conditions.

Demography and living conditions:

- Add "Number of employed migrants"
 - They have a significant impact on forest and are involved in other activities. They have a greater impact than local communities do, as they have greater access to transport and less incentive to conserve long term.
- Add "Number of permanent military employees"
 - Also have significant impact
- Health
 - Perhaps include average life expectancy.

Socio-cultural setting:

- "Indigenous use of forest" is related to "Level of dependence on forest products"
 - They should be put closer together
- Social attitudes towards conservation of forest – should ask about preserving the local forest, but also whether they understand the broader context (eg. impact on rivers, erosion, global warming) – is there any understanding of these concepts?

Break into two questions:

- Attitudes to conservation locally
- Attitudes to conservation in a broader context

Livelihoods:

- Income from forest products should be broken down into:
 - Legal
 - Illegal
- Number of tourists should be broken down into:
 - Local
 - International

Infrastructure:

- Under “Access to amenities and services”, separate health facilities; schools; water & electricity.

Questions & Answers / Group discussion:

There are several questions in each band in the same style as “Access to amenities and services” – there are several factors in each band which makes it very difficult to appropriately choose which level best represent the situation. It might be better to divide each of these into sub-questions.

Group 3 – Policy and Institutional Frame

Laws and regulations

- Relevance:
 - Relevance not reflected in laws
 - It's not that the laws aren't well written or comprehensive, but they overlap and conflict and there is no clear hierarchy in the laws to know what applies. (eg. FL/Land Law; ENVT/MIME)
- Local regulations:
 - Local communities?
 - What weight do they have
 - Stop illegal acts
- Land Tenure
 - Values? Is the land tenure status an either / or choice? A. - Yes
 - Percentage of households with land right certification could be incorporated into land tenure status questions
- Law enforcement
 - When you are asking about the “strength” of law enforcement, are you asking whether it is actively pursued or whether it is effective? Most organisations here are very active, but not so effective, due to issues with Cambodian legal system.
 - Cut out local people - Role of local people in law enforcement – community rangers want to arrest people, but they cannot because the criminals are armed. What do you mean by this question?
 - Both formal officers and more informal village protection teams. Their motivation might be high, but do not have protection of law behind them.
 - Need to include a question about judiciary

Participatory processes

- Mechanisms exists – Regulation of procedural guidelines
- Mechanisms effectiveness – Are they effective or used?
 - Just because there are lots of meetings, it doesn't necessarily mean that they are effective. Clear organisation of local community.

Social Organisation

- Community organisations – When you say “fair” at level 5, do you mean equitable or at a reasonable level?
- NGOs presence / absence - so what? Some other measurements qualitative
- Legalized - In what form? Not clear in Khmer law.
- Customary rule – There are three questions on this, but customary rules are not a significant feature in the areas that people are working. This is too much emphasis.

Other recommendations

Under laws and regulations; Stability of political processes, you should separate the stability of laws and regulations and the level of adherence to it.

Add measurement of:

- Clarity of jurisdiction
- Coordination of government ministries and local authorities.

Change wording – description of measurement is too complex. Less likely to aid clearer choice.

Group 4- Major project features: (no flip chart notes)

- Characteristics good except that “Source of funding” was a bit confusing.
- Programme activities - % effort – what does it mean? Need a clearer way to define it.
 - Represents a comparison of investment in time and money. Could change to time-effort or financial-effort.
- Collaboration – Does a higher level of meetings really mean improved collaboration / conservation? Is it a fair indicator?
- Media – do you include bad press?
- Collaboration with local organisations – Consider whether after a while does the volume of collaborations become a burden, and decrease effectiveness?

Project outcomes

Number 98 and 100 are most important.